INTRODUCTION TO ROBOTICS & CODING
Ages 4 - 7

Let's learn coding! :)

START

END

Dear parents,

STEM Centre Australia is excited to offer our **'Introduction to Robotics & Coding for Early Learners'** course! **This is one of the first of its kind in Adelaide**.

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 (2015), over the next five years, employment is predicted to increase in professional, scientific and technical services by 14 per cent and in health care by almost 20 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.

Introduction to Robotics & Coding for 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 from leading Australian industries within the disciplines of engineering, mathematics and education, this 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 4 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 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 course is 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.

Additionally, learning modules and integrated assessments throughout the course and end of course completions promote the development of 21st century transferable skills of problem solving, critical analysis, creative thinking and teamwork; necessary skills for lifelong learning.

> *We are excited to lead this initiative, opening your child's mind to the world of Robotics & Coding through our course specifically design for early learners; ages 4 – 7. We focus on establishing preliminary concepts in this course and then into advanced settings through our other STEM courses. Students will be exposed to a range of engaging and interactive activities, to address and extend Australian Curriculum content, promoted by self-regulated and active learning strategies.*

All lessons are conducted by qualified and experienced professionals within relevant Australian industries and institutions, thus providing a real-life approach to STEM-related fields.

Course Structure

1. Foster and nurture students' curiosity towards STEM, ensuring the development of deeper engagement and learning
2. Introduce essential concepts such as logical thinking, sequential thinking that are essential to lay a good foundation in coding and programming
3. Develop and implement fundamental mathematical, logical reasoning and algorithmic thinking skills
4. Develop and Implement robotic based methodologies to learn and understand and integrate mathematics, arts and music in an engaging manner
5. Learn and gain practical experience in instructing and controlling robots with block based sequential programming techniques
6. Synthesise and implement new learning; undertake critical and creative thinking; identify and solve problems
7. Work effectively individually and as a team in project design and evaluation tasks

Course information

Ages 4 – 7
- 6 sessions x 1.5 hr per session
- Starting in School Term 2:
  - Group 1: Starting 4th May 2019, Saturdays 10.00 am – 11.30 am
- Full course fee: $239
- **Registration closes by 2nd May 2019**

Location

STEM Centre Australia (and Tutors SA) Hectorville Centre
East Torrens Primary School
12 Robson Road, Hectorville SA 5073

How to Enrol

- Step 1: Complete the Online Enrolment From HERE.
- Step 2: Pay STEM Centre Australia the course fee in advance by **02/05/2019**. An invoice will be sent to you with the payment details once the enrolment form is completed.

We look forward to guiding your child on this voyage of discovery, which will see them excel well beyond their regular school classroom.

With limited places available, secure your child's future today by contacting us on 0412 258 554 or info@TutorsSA.com.au.

Kind regards,
STEM Centre Australia Team

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