

# Early Learning Labs Workshops

**JANUARY 2018**



UNIVERSITY  
OF WOLLONGONG  
AUSTRALIA

Outreach & Pathways

## YEARS 3 & 4 WORKSHOPS



### Coding With Scratch

*Presenters: 'Devika'*

With Scratch, you can program your own interactive stories, games, and animations – and share your creations with others in the online community.

Scratch helps young people learn to think creatively, reason systematically, and work collaboratively – essential skills for life in the 21st century. It sets out to give the young students experience in beginning to code, working in teams, making creative solutions to problems, and understand fluency in mathematics through the creative and building aspects of drop and drag development.

Devika is a collaboration of technology start-ups with global and social ambitions- <https://devika.com.au>.



### Composer Kids

*Presenter: Ben Jones*

Ever wondered how songs are written? How do they record and make CD's or MP3's? Head into the studio to find out...

This workshop is aimed at young musicians or music lovers with the aim of composing, recording, editing and producing an original musical composition. Working collaboratively you will investigate different ways to create sounds including "sampling", voices, instruments and even digital media!

At the end of the workshop you will be able to save your work to a USB to take home with you. Everyone is welcome to bring their own instrument, or just turn up with a willingness to experiment with music.



### Forensics for Fun

*Presenter: Stephanie Lorenz*

A variety of crimes are committed each day that need to be solved.

In this hands on workshop we will use skills that real forensic scientists use to solve these crimes. We will document, investigate, test and hypothesis in our quest to solve these mysteries.

This course will give an insight into this highly specialised field of science giving students a unique opportunity to learn science skills not covered in the curriculum.



### Graphic Design

*Presenter: Angelina Marcon-Jones*

This workshop introduces students to the fundamental principles of design through an exploration of composition and the relationship between words and images.

Students will explore creative and innovative design solutions by hand and also develop fundamental computer literacy in the engagement of a design brief in the format of a t-shirt.



### Coloured by Light

*Presenter: John Kennedy*

Have you ever wondered why the grass is green or why sunsets are red? In this workshop you will perform experiments that split white light into the rainbow and put it back together again.

We will look at how light bounces between mirrors, bends through lenses, makes the small big and the big small. You will also investigate how the eye and brain work together to "see" colours and how we can use light to create feelings of hot or cold, happy or sad in theatre.

Come and bring your inquisitive brains, your imaginative minds and your creative selves and learn things about light you never even thought of before!



### Exploring Ancient Egypt

*Presenter: Maria Matic*

Have you ever wanted to explore the world of the Ancient Egyptians? Come on an adventure down the Nile and explore Ancient Egypt's fascinating pyramids, powerful Pharaohs, rich culture, intriguing traditions and society to see what life was like in Ancient Egypt.

Learn hieroglyphics, about the gods and goddesses, the beliefs of the Ancient Egyptians and what they believed happened in the afterlife, the mummification process and the role amulets and keepsakes played.

In this workshop, students will be immersed in the Ancient Egyptian culture, make their own pyramid and learn about all things Egyptian.



### Genie-In-Us

*Presenter: Dr. Patty Rose*

Is your genie from Genius ready to play? The great news is that everybody can think and everybody can solve problems. So you are already qualified for this funshop!

If you have a bright imagination and like to make things then come and release your very own genie-in-us by using the magic of creative and critical thinking to solve mysteries and grant three wishes.

Using some fun techniques we will be learning some brainstorming strategies, ways to think on the spot and work together to design and make fantastical creatures to feature in our own imaginative World (like Pok-e-mon meets Minecraft) where anything is possible and winning is by helping others.



### The Great Debate

*Presenter: Jenna Appoloni*

Do you want to learn to duel with words? To engage in a battle of wits and construct clever arguments? Then debating is for you.

In this workshop you will build on your public speaking and debating skills, learn how to put together a debating model, create clever arguments and shut down your opposition with witty rebuttal. You will also learn about the role of each speaker in a debate and the way debates are structured. You will learn to speak with passion and persuasion.

You will learn to enjoy working as part of a team where everyone contributes ideas and you will learn the sportsmanship of debating, where the most important thing is not winning but the enjoyment and intellectual stimulation of a great argument.



## Hola! Welcome to the World of Spanish

Presenter: Sara Del Rio Garcia

¡Hola amigos! Did you know that many children around the world speak more than one language? Wouldn't you like to be one of those lucky children?

In 'Let's speak Spanish' you will learn much more than just new words - you will discover a whole new world. We will use songs, games, dance, art and drama to introduce you to Spanish culture and also begin you on the journey of learning the beautiful Spanish language.

Amongst our experiences in this workshop, you will have the chance to re-create the hilarious antics of Don Quixote; and experience the colour and energy of the music and dance known as flamenco! This workshop is designed for children who are new to the Spanish language, so everybody is welcome.



## Just Love Art!

Presenter: Michelle Papesch

In this workshop you will get to learn about a variety of artists.

You will have the opportunity to observe some pictures of their artwork, as well as learn a little more about the artists themselves. You will explore the different techniques and mediums used in their work and then, using what you have learnt, create your own artistic interpretations.

Young artists who attend this workshop will without a doubt produce some gorgeous, dramatic and frameworthy pieces of art! If you 'just love art!' then this is the workshop for you!



## Solve the Mystery of the Missing Mars Bars

Presenter: Deborah Austin

You will need to be an effective and efficient detective who possesses excellent numeracy, literacy and investigative skills, and excellent powers of observation to search through evidence and suspect profiles.

It will require you to pose questions, follow a scientific investigation by conducting experiments on some pieces of evidence and predict the findings. Completing the experiments and analysing all the background information and research will help you identify who committed the crime. Good Luck Super Sleuths.



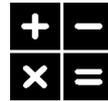
## The Joys of Writing

Presenter: Elaine Sander

Writing gives you a chance to find your point of view and to explore ways of composing the stories that you want to share.

You will experiment with different ways of writing to discover what suits your storytelling. You will have the opportunity to create interesting characters facing challenges and tensions in worlds that you imagine.

Be prepared to challenge yourself to find ways to express your ideas and to construct engaging stories.



## Mathematics for the Absurd

Presenter: David Jacques

Mathematics is amazing! It helps us describe the world around us. It is logical. It makes sense. It is universal. No matter what language you speak,  $1 + 1 = 2$ .

In this workshop we will work with the other side of Maths! The secret Maths! The Maths that is illogical, that has no real world connections. The Maths that is so abstract and bizarre that it confuses you yet you can not help but marvel in its beauty.

Be prepared to work with the impossible... and hopefully keep your sanity in the process.



## Welcome to Hogwarts

Presenter: Helen Dudeney

Professor Dumbledore and the other professors at Hogwarts invite you to spend two days with us taking part in a wide variety of Special Lessons. You are welcome to come dressed as your favourite student.

We will visit Diagon Alley to collect our wizarding materials and get sorted by the sorting hat into your house (not necessarily the house you expect - the sorting hat knows best!). There will be classes in Transfiguration, Potions & Charms and Herbology. The trivia challenge will give you a chance to impress us with your knowledge of Harry Potter (1st Book /Movie).

All you need is your imagination, your creativity, your great ideas and to be prepared for fun and excitement.

## YEARS 5 & 6 WORKSHOPS



## 3D Printing & CAD Modelling

Presenters: Ben & Heike Roberts, Modfab Pty

3D printing is one of the fastest growing technologies in the world. Have you ever dreamed up an idea or product but not known how to make it real? Participants in this workshop can begin their journey towards becoming designers, makers and entrepreneurs.

After this hands-on workshop you will be aware of how to:

- Operate a generic FDM (fused deposition modelling) 3D printer
- Prepare models to print with slicing software
- Learn how to troubleshoot your prints
- Bring your own designs to life using free CAD software
- Engage in project based learning and use critical thinking skills
- Create your own name tag, design and 3D print a solution to a problem!
- Create your own 3D Printed Tic Tac Dispenser.



## Beautiful Tangles

Presenter: Claire-Louise Carradice

Let your brain un-tangle in this Zentangle drawing workshop.

This workshop is relaxing, and fun. You will learn to not only create beautiful images by drawing repeating patterns, but also to embrace mistakes within your learning journey. The idea that there are no mistakes-only opportunities.

As the Zentangle motto goes; "Anything is possible one stroke at a time.". No prior experience in art is needed to learn Zentangle. All of the mindfulness techniques taught in this workshop are skills which you can use in all aspects of your learning!



### Brain Challenge

Presenter: Bruce Sander

Most of us “think” in similar, often simple patterns, regardless of our intelligence. The ability to break out of these patterns and think in more complex patterns or “think outside the box” is the mark of many successful people.

This course will provide a wide array of challenges to your way of thinking. You will have an opportunity to see how “clever” you really are when confronted with ideas, puzzles, optical illusions and riddles which may perplex conventional thinkers. You will also consider, discuss and explore case studies of social and ethical dilemmas where real people need to think of solutions to difficult problems with no simple answer.

The course is structured for both fun and competition for individuals and deep thoughtful cooperation among the group.



### Create & Publish a Digital Book

Presenter: Judith Radin

Calling all young authors! Got a great idea for a story with groovy words and pictures? Want to share it with the world? Then come with us and learn how to turn it into a stunning digital book.

Step-by-step, we will show you how to arrange your original text and hand-drawn illustrations using ePub software and then upload your new eBook to the cloud.

Friends and family members will be able to download it to iBooks and read it on their iPad, iPod or iPhone.



### From Idea to Stage

Presenter: Heath Dannelly

Are you a creative, dramatic, deep thinking, bubbly person? Do people use drama queen or over the top to describe you? Do you yearn to have the bright lights of the theatre shining on you while thousands of people clap?

How does it all start? How do modern performers and directors create drama and theatre? The ability to use improvisation and play to create performance is one of the building blocks of the modern theatre.

In these workshops you will have the opportunity to perform and play with a range of styles using your voice and body as the tool to create unique and interesting characters culminating with a performance at the end of each day. All you need are flexible ideas, clothing and the energy to make this happen.



### Hogwarts Express

Presenter: Shirley Jancetic

Ever wondered what it would be like to go to Hogwarts School of Wizardry? Take part in a Herbology lesson? Or try your hand at a Potions class? Then this workshop is right up your Diagon Alley! Over two days you will experience six different Hogwarts inspired classes Arithmancy, Charms, Care of Magical Creatures, Herbology, Potions and the Study of Ancient Runes.

You will go from solving mathematical problems to identifying parts of a plant, there will also be a lesson in mixing potions followed by a lesson in Runes where the missing snitch must be found! If you are looking for a workshop that will be both intellectually challenging and fun come and explore the muggle equivalent of Harry’s schooling at Hogwarts!



### Coding With Touch

Presenters: Devika'

Creative Coding Through Games And Apps is a first semester introduction to computer science course built with Touch Develop.

Touch Develop helps young people learn to think creatively, reason systematically, and work collaboratively – essential skills for life in the 21st century.

It sets out to give the young students experience in beginning to code, working in teams, making creative solutions to problems, and understand fluency in mathematics through the creative and building aspects of drop and drag development.



### Exploring Ecology

Presenter: Carina Tobia

Are you a mini-Attenborough with a love for the natural world? If so, join us for this fun, new workshop!

Explore planet Earth’s unique ecosystems such as coral reefs, forests and deserts. Investigate the fascinating ways plants and animals interact through food chains and food webs. You will also learn to use and create classification keys and identify species by their scientific names.

You will be working in one of the University’s labs so make sure you wear closed in shoes for your safety. Interactive and interesting, Exploring Ecology will inspire you to see the natural world in a whole new light!



### Guerilla Poetry- Giving Poetry to the People

Presenter: Meredith McGregor

The poet William Wordsworth said that good poetry, is “the spontaneous overflow of feelings” - how can we share this with the world? Do you love to write poetry? Do you enjoy creating fun and interesting ways to share your work?

Guerrilla means “little war” in Spanish. Poets who publish guerrilla poems are fighting their own “little war” to find new audiences for and new ways of writing poetry. Their unusual methods- chalk on pavements, slipped into library books, in shopping trolleys, left in cafes, and so many more we can explore - are like a “surprise attack” on the reader.

Join us as we explore, create and surprise our community with our words in the most unusual ways!



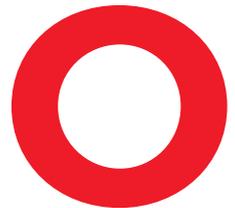
### Hot Rod Garage

Presenter: Richard Ellis

Ever wanted to build your own car from scratch? Are you interested in hands-on, experiential learning using regular household and recyclable materials to make awesome machines?

Participants in this workshop will experiment with electric motors, circuits, gears and physics to design and build their own hot rod. They will explore the inner workings of motors and gears and in order to create their own mini monster street racer. End products will be rated by peers, who will judge them based on speed, safety and, just as important, how wicked it looks.

Mechanics will be able to take home their creations at the conclusion of the course.





## How Computers Think

*Presenter: Ashley Heath*

Do you know how a computer works?

Today computer chips are everywhere. They are in our computers, phones, microwaves, cars, tablets, TVs, and much much more. But even though they are everywhere most of us still don't know how they work. This class will teach you what goes on inside the magical things we call computers and how basic circuits work. You will be introduced to the transistor, the thing that makes all computers possible.

This is the workshop for you if you like blinking lights, solving puzzles, and knowing how the world works.



## May the Force Be With You

*Presenter: Lorna Jarrett*

Force is one of the key concepts that physicists use to describe the world.

In this hands-on workshop we will use both everyday objects as well as specialist physics equipment to explore different types of forces. We will carry out experiments to find out about gravity, magnetism, friction, electricity, buoyancy, air resistance, surface tension and more.

We will design experiments to test the effect of forces, work together to construct objects to solve problems, learn to use physics language to describe our results and make animated videos to explain what we have learned.



## Painting with Code

*Presenter: Alanna Vial*

Do you enjoy Art and Mathematics or coding? In this workshop, you will design a beautiful artwork using code in just two days.

Let's get creative, and learn to code at the same time, so that at the end of the workshop you can say "I programmed this masterpiece!".

Learn about functional coding, loops, conditional statements, data types and many more coding concepts. Give yourself the skills to succeed in the 21st century while creating something amazing at the same time.



## Introduction to Building Video Games

*Presenter: Alexander Kelly*

Video games have become one of the most popular forms of entertainment across the globe.

A flexible medium, video games allows the player to experience things that would not be possible in any other medium. But have you ever wondered how video games are built, and what goes into building one?

The "Introduction to Building Video Games" workshop is a crash-course introduction into the world of game construction. In this workshop, you will learn about how video games are produced, by constructing your own game! Learn to draw your own game art, create your own special effects, and of course tie it all together with some programming!



## Momentum Mathematics

*Presenter: Liza Booth*

Back by popular demand, learn the secrets of SPEED MATHEMATICS.

You will amaze yourself, family and friends when you discover the world of mentally multiplying very large numbers faster than you could tap the digits into a calculator. You will learn to recognise patterns and increase your speed and accuracy.

The Momentum Maths workshop will promote your confidence, offer you a real understanding of numbers, increase your mental agility & intelligence and most importantly, sharpen your mind!

Bring your calculator along to CHECK your calculations but NOT to actually DO your calculations.



## The Body in Motion: Biomechanics

*Presenter: Diane Harland*

Learning by doing. During this workshop, participants will be involved in a number of practical activities. We will apply the concepts of mechanics to understand human movement and some of the different ways to measure human movement. We will investigate the who, what, why and how of physical performance.

The concepts explored will include: balance and stability, laws of motion, friction, rebound, swimming and floating, projecting objects, walking and running and a variety of sports skills analysis.

Participants will also be challenged to consider complications that may threaten efficient motion, how to identify these and how they happen.