HANDS ON TECHNOLOGY 2023
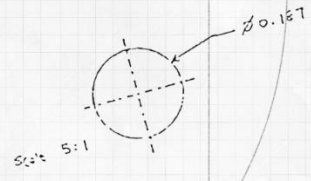
MACQUARIE FIELDS HIGH SCHOOL

20th & 21st MAY
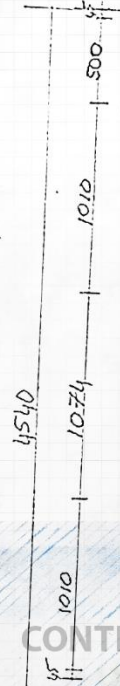
COURSES ON OFFER

YEAR 7 RBG PROGRAMMABLE DESK LAMP
INTRODUCTION TO WORKING WITH TIMBER
MITRE BOX MAKING COURSE
ARDUINO BASICS INCLUDING LED COLOUR CHANGING
REVIT ARCHITECTURE COURSE
INTRODUCTION TO ONSHAPE
INTRODUCTION TO FOAM PUPPET MAKING
POWERSTEM PROJECTS
RESIN POUR: PLAYING WITH RECYCLED TIMER AND MORE

CONTINUOUS IMPROVEMENT

REGISTRATION: https://www.itensw.com.au/event-5040055

FACE - TO FACE

PROFESSIONAL LEARNING GOALS

NETWORKING

DEVELOP SKILLS

SUPPORTIVE LEARNING COMMUNITY

SIGNIFICANCE

ENHANCING TEACHER CAPABILITIES

HIGH IMPACT PROFESSIONAL LEARNING

PRACTICAL LEARNING ENVIRONMENT

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Course	Course Description	Participants	Cost
Mitred Box making course	We will cover the foundations of box making using various methods that could be used in a classroom. The course will cover preparation of timber, cutting splined mitre joints, cutting housing joints, veneering plywood, gluing and clamping boxes, fitting butt hinges, and finishing.	20	$500
River pour: Playing with Recycled Timber and More	Have you always wanted to know the Tips & Tricks of doing River Pours? How to get rid of those pesky air bubbles in Pour on finishes? Or how to achieve great finishes using recycled timber? What products and requirements for internal and external conditions? This workshop will give you all the Tips & Tricks and correct products to do River Pours and more. By doing your own projects you will be loaded up with heaps of techniques for working with recycled and new timber for making unique woodwork projects. You will gain Tips & Tricks on how to take very ordinary pieces of timber from fence palings to slab timber and turn them into one off masterpieces. The plan is for you to bring manageable pieces of 2nd hand timber with you to play with over the two days. We will do the pouring / Epoxy coating on Saturday and finishing on Sunday. We will provide you with a list of goodies (Do not sweat if you do not have timber – we can supply) and tools you will need to bring once advised you have selected our knowledgeable workshop.	15	$650
Introduction to Onshape	This is a course introducing educators to Onshape. "Onshape is a professional-grade, cloud-native CAD platform that students and educators can access for FREE on any device, anywhere, anytime." It is cloud-based platform that works on both Mac and PC. Design complex solid and surface models using top-down or bottom-up methodologies. Create highly structured and detailed assemblies with built-in standard hardware and parts linked from other Documents. Create fully detailed drawings of parts and assemblies with dimensions, and	22	$400

	import and export of DWG, DWT and DXF file formats. Participants will leave the course able to model and draw products suitable for high school technology and engineering subjects. They will be able to manage Onshape in a school environment and access and develop resources for use in the classroom. BYOD Course		
REVIT architecture **REVIT architecture**	This course will cover the following aspects of using Revit and preparing HSC Major Projects: (this course is BYOD, please bring Revit installed on your device) • Create an A3/A2/A1 size sheet template with custom border, title block, logo and North symbol for use with all drawings • Export all drawings to sheets – then export them to PDF • Symbol plan - showing all symbols used and what they mean – 1 for site, 1 for regular, 1 for room / bathroom / wet areas, electrical symbols • Site Plan – shows site, north symbol and foundation • Set Back Plan – similar to site, includes measurements from boundaries to buildings • Shadow plan – 9am, 12pm, 3pm • Electrical diagrams – add switches, lighting, power outlets, main circuit board, lines coloured yellow and dashed • Plumbing – add in waste (black), hot water (red) and cold water (blue). • Floor plans – all dimensions, rooms coloured and tagged, rooms show area. Include key • Elevations - Black + white and rendered • Elevations – Dimensioned – Black and white. • Sectional views of all wet areas / rooms - Black + white & Rendered • Footing view showing all materials - Black + white and rendered, dimensioned and materials labelled • AC diagrams (if time permits)	20	$400

	• Inventor Furniture Project to be inserted in Revit – Orthogonal view, dimensioned orthogonal, sectional view, detailed view, render, 3D print, high quality render of that product inside your project • Walkthroughs – rendered. High quality. Do rooms 10-20 seconds. Cut together in a video for marker. 6-minute time limit. Show all rooms and outside. This will wow the marker. • Renders showing inside and out. High quality - Create accounts for Autodesk. Use free student credits. Or use other rendering software as researched. Expect renders to take a long time		
Introduction to Working with Timber	For teachers who are either new to or not very experienced/confident with working in the timber workshop. Instruction will include hand tools suitable for use with students, as well as machine use suitable for teachers. Work with traditional timber techniques creating two projects aimed at students in Years 7-9. The projects will look at a range of production methods, tips and tricks to ensure the greater success for students.	15	$450
Puppet Building- a magical conjunction of timber, textiles, and rapid prototyping.	Participants in this workshop will build their own hand and rod puppet (also known as Muppet Style) from scratch that they get to take back to school. This workshop is ideal for teachers looking at how multiple Technologies domains can be combined into one project. Teachers will use wood, foam, fleece, and 3D printed parts to build their own unique puppet. All materials required for this workshop are provided, and even if you have never sewn a stitch in your life, it is not a barrier to making a puppet. About your instructor: Katherine Hannaford is not only the Teacher Librarian and STEM coordinator at Macquarie Fields High School, she is also a professional puppet builder for Stage and Television for 20	15	$500

	years. Most recently, Katherine fabricated the puppets used on the 2021 ABC iView campaign seen on ABCTV, internet ads, billboards, buses, as well as puppets for the 2017 Schools Spectacular, and developed a Board Endorsed Course in Puppetry in 2016. 		
PowerSTEM	PowerSTEM projects are all about making and testing cars and planes and they have just had a real boost with the new PowerAnchor and online content. This session looks at the new features and how they can be used to enhance any STEM program. The real key to successful STEM projects is having a strong making component as well as good data collection. PowerSTEM projects aim to keep making simple so that multiple variations can be made and tested. Data collection is they basis of informed design modification and eventual vehicle optimisation. With over 500 schools across Australia doing PowerSTEM projects this is a good opportunity to see first-hand how they work, and if you are already doing them, see what's new and come and share your insights.	22	$400
Arduino basics incl LED colour changing	This course will cover the basics of programming a controller, including inputs and output. While the final product is a colour changing LED that responds to input light level, the basic	20	$460

	course provides knowledge on how to deliver arduino projects successfully across a range of projects and designs, focusing on how to teach code and structure successfully with an example output.		
Year 7 RGB Programmable Desk Lamp project	The course entails a Year 7 Desk Lamp project that incorporates multiple disciplines of technology, ranging from engineering, metalwork, timber, electronics and programming. The project uses a variety of materials in the construction of the lamp, including ferrous and non-ferrous metals, timber, and digital components. The lamp base will need to house the digital components. It will be designed according to a chosen theme, using the laser to engrave an image. An Arduino Uno microcontroller will be used in the construction of this project with several components including a programmable RGB LED strip and switch. Program code will be uploaded, tested and used to control the RGB LED strip to flash, and or different light sequences . Tooling, templates and preparation requirements for the project will also be demonstrated.	20	$450