**Thursday Morning Workshops**

1. **Applying Graphical method to solve engineering problems**

**Presenter -** Anne Shen – Hunters Hill High School

**Target Audience** - Stage 5 Engineering

This workshop is specifically designed for new Engineering Studies teachers, those with limited experience in using graphical methods to solve engineering problems due to a lack of confidence or understanding of vector diagrams, and teachers seeking alternative methods for engaging students with low to moderate mathematical skills. However, teachers at all levels are encouraged to explore and expand their skills in this area.

The session aims to explore the practical application of graphical methods in engineering, providing participants with a hands-on experience to enhance their problem-solving skills. Attendees will learn to effectively utilise set squares and a protractor to interpret and solve common engineering calculation questions in Civil Structure, Personal and Public Transport, and Aeronautical Engineering modules, including problems on bridge force analysis, static frictions and lift and drag ratios.

* Standard A4 paper and a curated set of questions will be supplied to guide the learning process.
* Participants are required to bring their own set squares and a protractor for manual drafting exercises.
1. **Gamifying the Curriculum to lift student engagement**

**Presenter** – Jason Eddie – Korowal School

**Target Audience** – All teachers

Gamifying the curriculum is the process of structuring lessons and content in a way that applies game concepts to your classes. These techniques change the language of learning and allow students to see progress as achievable challenges with clear paths to levelling up. This does not mean using computer games! You can do this without computer technology but there will be approaches that utilise digital tools to enhance and automate the process.

1. **Landscape Architects Classroom Lesson Plan - Learning Activity - Design a Place in Your School.**

**Presenters** - David Moir/ Miriam Enoch (TBC)

Role/ Position: President/ Vice President of the NSW Australian Institute of Landscape Architects (AILA)

**Target audience** – Stage 3 – Stage 5 STEM, Stage 3 – Stage 4 G&Ts, Stage 4 & 5 Graphics Technology, Stage 6 Industrial Technology - focus area Graphics Technology.

This workshop explains the role of the Landscape Architect and provides a lesson plan for Technology learning that reflects the work of Landscape Design Professionals and the design of the Built Environment.

Real World examples, graphics and completed projects, will be presented to show how studying Design can lead to a career in shaping our cities, towns and parks, playgrounds and gardens, design with Country, improve the health of our people and improve the environment.

Attendees will be taken through the Lesson Activity which identifies a place in your school or environment that is not functioning very well, may be unpleasant to visit or unused and where design intervention is required. A real example project will be provided for this workshop - known as the “site”. Each attendee will be supplied with an aerial photo of the site, pens, pencils, and tracing paper. The presenter will lead you through site analysis, opportunities assessment, freehand drawing and ideas exploration.

This lesson can be replicated at your school by your teachers following a similar lesson plan.

Additionally, if required, a Landscape Architect can provide support and lead this workshop at your school. The workshop will explain AILA’s “Be A Landscape Architect” program and how to connect with a Registered Landscape Architect.

1. **Testing and Evaluating – Reviewing a year of teaching Stage 5/6 Computing**

**Presenters** - Veneta Bailey and Nick Walker

**Target Audience -** Stage 5 Computing Technology teachers, Stage 6 Enterprise Computing teachers, Heads of department

This workshop will showcase programs and units of work implemented in our school environment for the 100-hour Computing Technology course, and the Year 11 Enterprise Computing course. We will discuss the successes and challenges of our experience across the year and share examples of student work. The workshop will include an opportunity for participants to engage in a Q&A feedback session.

Participants are encouraged to bring with them a copy of their current or proposed programs and units of work to add ideas / feedback to.

1. **Developing new projects in Industrial Technology - Timber - An overview of Wednesday’s 6 hour workshop**

**Presenter -** Martin Naughton (St Joseph’s College, Banora Point)

**Target Audience** – New and existing teachers of Timber based subjects in Stage 4, 5 and 6. (including Technology mandatory and Industrial Technology Timber)

Did you miss Wednesday’s detailed ‘Hands On’ course, yet you would like to know what was covered?

This workshop is intended for new and existing teachers looking to develop new projects or update existing projects, so the projects we teach are more appropriate to students of today and how to allow student input and student ownership into the design of timber projects.

As an example, think about how often would you see the following in a house – a magazine rack, coffee cup tree, spice rack, letter opener? Why do we continue to teach these projects?

1. **Explicit teaching in TAS**

**Presenter** – Alex Stewart – DoE

**Target Audience** – All teachers of TAS

Explore opportunities for explicit teaching in the TAS KLA. This workshop will help you articulate the existing explicit teaching you are already doing in your classes, helping to highlight your compliance with this DoE priority.

1. **HSC Industrial Technology Written Examination.**

**Presenter –** Tim Sutherland -St Vincent’s College Ashfield

**Target Audience:** Stage 6 Industrial Technology Teachers – all focus areas. New and experienced teachers.

From Syllabus, Assessment and Reporting document, and the marking criteria. How to prepare students for the examination and write your own practice question and marking criteria. I will describe how each of the following Stage 6 Industrial Technology documents stand alone and together influence the HSC Examination. Syllabus, Assessment and reporting document, that results in the written examination and importantly, the marking criteria. Reference will also be made to the mapping grid. Examples of questions, answers and marking criteria will be presented and discussed for all sections I, II and III, relevant to all focus areas.

1. **Contemporary Metalwork Projects to Inspire Your Stage 5 Industrial Technology Students**

**Presenter –** Jay Brown (St Edwards College, Gosford)

**Target Audience –** Stage 5metalwork teachers and those interested in introducing metalwork at their school.

Contrary to many beliefs, the metal and engineering sector in Australia is far from dead and buried. However, trying to find projects that tick all that syllabus points and engage students can be quite a challenge in our time-poor teaching system. Look no further, as an ex-metalwork tradesperson I was passionate about seeing Metal embedded in Stage 4 and flourish in Stage 5 - 6. In the last 4 years I’ve had great success with new innovative projects that has seen our student numbers grow from 20-70 in Stage 5-6. Throughout this session I will display and explain Stage 5 Metal projects that have been successful in creating interest for Ind Tech Metal. I’ll show you how to get the most out of your students and your resources. Join me for project display, discussion and sharing of resources to help build Industrial Technology Metal in your school.




1. **High Strength Modern Technology Adhesives**

**Presenter** - Dave Giddings - The Epoxy Guru BoatCraftNSW

This is a TechExpo Workshop.

*Have you always wanted to know the Tips & Tricks of how to achieve high strength waterproof joints. What about those pesky joints that creep?– eliminate them. What about those hard to glue timbers where the joints pull away?*

This Session is to demonstrate to teachers high strength & waterproof gluing all sorts of materials using modern technology adhesives without screwing. The workshop will cover the use of EPOX-E-Glue, Luci Clear Epoxy Glue, Bote Cote Epoxy with Fillers and Purbond Polyurethane Glues based on a “Safer Way to Work”. We will cover why these modern technology adhesives should be used in the classroom over other Epoxies, polyurethanes and PVA glues for high strength joints.

Where and when to use these glues over similar looking products from our favourite hardware store. The use of these adhesives is mainly aimed at Year 11 & 12 Students projects where creative designs and workmanship is desired.

Purbond for use in Vacuum Bagging and fast gluing to keep jobs flowing with Purbond FX (5 minute cure) & F20 (20 minute cure) such as Cutting boards, skate boards, musical instruments and other laminated projects.

We will also show and let teachers use the glues, how to mix fillers with the Bote Cote to use as an adhesive and for filleting joints.

A bit on Boat Building Techniques for creative woodwork projects.

Applications where these glues are superior to PVA’s where the joint / timber may be subjected to high levels of moisture. Neither glue suffers “Creep”.

1. **A teachers guide to Implementing Virtual Reality - Use case 1 & 2 - Viewing and Creating VR Projects**

**Presenters -** Rosanna Cotino and edgedVR team

This is a TechExpo Workshop

**Target audience:** Stage 4, 5 & 6 Teachers of STEM, TAS, IT, IST, Digital Technologies, Design and Tech, Multimedia

By engaging in this workshop, participants will learn: Understand the different use cases of how Virtual Reality could apply to your school and classroom teachings.

* How to use VR as a powerful digital learning technology in the classroom
* Understand VR STEM learning tasks using version 9 of the Australian Curriculum – Digital Technologies and Design and Technology
* How to use 'pre-made' VR content as classroom based teaching
* Understand how immersive VR can be used practically and powerfully to engage students in cases of authentic inquiry and VR creation.
* Learn about 'self-created' content - 360 images, 360 Video, plus Multimedia files - in the design, production and evaluation of an immersive VR experience

This is an information session for teachers that want to implement VRCreate in the classroom. Following on teachers can sign up for VRCreate NESA accreditation course.

**VRCreate course:**

Hands-on work to develop the overall learning design mapped to timetable, curriculum, workflow and learning outcomes. How to Apply the 5-step framework - Idea, Collaborate, Create Content, Build in VR and Share. Plan the topics and concepts, design a storyboard, student roles and activities, creating content, rules for design when creating VR projects.

**Option purchase**:

**Special package for workshop attendees only: $4999**

* X3 Headsets with a full interactive library of STEM content modules in offline mode for whole school access.
* X10 VRCreate software licenses for 10 devices (perfect for a computer / STEM / Innovation room) allows access for whole school.
1. **ARTEC WORKSHOPS**

These will be decided by the ARTEC Team as information comes to hand closer to the conference. iTE members are welcome to join these workshops.

**Thursday Afternoon Workshops -**

1. **6 Engineering Studies ... Learn through doing.**

**Presenter** – Steven Bauer

**Target Audience** - Primarily Stage 6 sample project ideas can filter down to Stage 5 and Stage 4.

Within this 60-minute presentation, presentations and practical experiences will be offered to help understand processes that can be taken to deliver practical learning experiences in the Stage 6 Engineering Studies course. While aspects of learning like soldering/welding and associated blacksmithing skills should only be taken in a workshop environment, participants will be given simple examples of the harvesting of raw materials and manufacturing processes like rolling and wax injection to physically understand what is theoretically taught from the syllabus. The idea here is to show how engineering manufacturing processes can be done by students in a standard workshop with readily available tools. While participants will have the opportunity to take sample items with them, the ensuing open discussion will be into the value of such procedures as a means of explicitly teaching engineering skills.

1. **AI Use in the Classroom and for Staff Use**

**Presenter** – Brian Barter

**Target audience** - Stage 6 teachers for support in student use, plagiarism and staff use for lesson tools, resource creation.

This presentation is on current issues in AI for schools, show use of Claude 3, ChatGPT, discuss plagiarism, teaching students how to use it wisely, Staff use for saving time and ideas generations and driving questions development PBL, training AI with concepts of ‘garbage in garbage out’ and algorithm version awareness, Microsoft Pilot use, time to allow for participants to experiment and use.

Attendees will be required to have a Claude 2 free version and CHATGPT version, paid version preferrable but on compulsory, or Microsoft Pilot education license access and installed

1. **Contemporary Metalwork Projects to Inspire Your Stage 6 Industrial Technology Students**

**Presenter –** Jay Brown (St Edwards College, Gosford)

**Target Audience –** Stage 6metalwork teachers and those interested in introducing metalwork at their school.

Contrary to many beliefs, the metal and engineering sector in Australia is far from dead and buried. However, trying to find projects that tick all that syllabus points and engage students can be quite a challenge in our time-poor teaching system. Look no further, as an ex-metalwork tradesperson I was passionate about seeing Metal embedded in Stage 4 and flourish in Stage 5 - 6. In the last 4 years I’ve had great success with new innovative projects that has seen our student numbers grow from 20-70 in Stage 5-6. Throughout this session I will display and explain Stage 6 Metal projects that have been successful in creating interest for Ind Tech Metal. I’ll show you how to get the most out of your HSC students and your resources. Join me for project display, discussion and sharing of resources to help build Industrial Technology Metal in your school.




1. **How to make acoustic guitars more easily. Learn how to make the jigs and accessories to help you and your students achieve a beautiful musical instrument.**

**Presenter** – Marty Naughton

**Target Audience** – Stage 5 and Stage 6 Industrial Technology Timber

Do you think that making a guitar is going to be hard work? Do you believe that guitars will not get good marks in the HSC. Don’t know where to start? This will help you to get underway and you will see that it isn’t as hard as you thought.

1. **Needle Felting and Weaving - An overview of Wednesday’s 6 hour workshop**

**Presenter:** Jacki Smith – Lindfield Learning Village

**Target Audience:** Stage 4 Technology Mandatory and Stage 5 Textiles Technology

Did you miss Wednesday’s detailed ‘Hands On’ course, yet you would like to know what was covered?

Participants will be shown 2 focus tasks - both in the Textile Art focus area - Needle Felting and Weaving. Both of these activities can be conducted without a textile room, opening it up for non-TAS teachers to undertake the program.

In Needle Felting, participants will be shown the skills and techniques behind felting and compare and contrast the fibres used - also looking at wet felting and the differences between.

In Weaving participants will be shown that skill building and the different Cultures that are entwined. If time permits, how to create your own looms on Adobe Illustrator and Laser Cutting your own looms for use in schools will be discussed - reducing costs for the department.

1. **So, you want to be a Head Teacher? Aspiring HT TAS workshop**

**Presenters** – Karen Murphy

**Target Audience** – Aspiring Head Teachers

This workshop has been designed for classroom teachers who aspire to move into a faculty leadership position. Based on the NSW Department of Education head teacher recruitment processes, it aims to:

* ​unpack the requirements of the executive position general selection criteria
* review common themes in specific criteria from past advertisements
* identify examples of practice that can be used to address the criteria
* identify roles and tasks in schools that could help build experience towards criteria evidence
* outline strategies to prepare a written application for consideration.
1. **Individual HSC Projects in Software Engineering and Enterprise Computing**

**Presenters** – Liz Rose and Peter Davis

**Target Audience** – Stage 6 Computing Teachers

This session will examine how you can support your students with idea generation, finding real-world problems to solve and seeking industry mentoring.

This focus will be to unpack ideas for the Individual project (30%) in Software Engineering 11-12 and Enterprise Computing 11-12. Success in the Individual project involves students finding projects that excite and engage them.

The session will reference the Department’s suite of resources developed to guide teachers on how to deliver these units with sample programs of learning and assessments.

1. **Supporting ‘Out of Field’ Teachers in Technology Mandatory 7 - 8**

**Presenters** – Alex Stewart and Ellie Singleton

**Target Audience** – Head teachers supervising Technology Mandatory where ‘Out of Field’ (out of faculty) teachers are implementing the course.

Many head teachers are faced with the problem of out of field teachers taking TAS classes. In this workshop we will explore the issues, discuss the implications for schools, teacher and students. Participants will receive an overview of some of the strategies and resources available to assist schools in this position.

The workshop will cover:

* the issues
* long term plans
* short term options for schools
* legal implications
* resources for upskilling out of field teachers.
1. **A safer Way to use Craft Epoxy Resins**

**Art & Coating Resins Tips and Tricks Session**

**Presenter** - Dave Giddings - The Epoxy Guru BoatCraftNSW

This is a TechExpo Workshop

Have you always wanted to know the Tips & Tricks of playing with Art & Coating Epoxy Resins? Want to know how to get rid of those pesky air bubbles in pour on finishes? Or, how to stop the colours merging when playing with Epoxy Resin? If this is you, then check out this Craft Epoxy Resins Overview of the HOT’s workshop.

During this Break Out session Dave will show you how to do a Coating and Art resin pour. Allow Dave to introduce you to achieving high gloss finishes. This will give you an overview of the fun projects you would achieve if you do a HOT’s on “Playing with Recycled timber and More” Workshop and ideas to take back to your classroom.

Dave will take you through the safest practices for using the correct craft epoxy resin for different applications. He will provide you with an overview of how to set up your workspace to eliminate epoxy resin ending up everywhere. By doing this Briefing / workshop, you will understand the full program covered in the ‘Hands on Technology’ Workshop on “Playing with Recycled timber and More”. It includes using modern technology epoxies for the classroom and complete your own projects in the future.

You will be given information on Modern Technology chemicals and why you should not allow old technology chemicals into your classroom. The briefing is based on the Australian developed and manufactured Luci Clear modern technology Casting, Art and Coating Epoxy resins. You will be shown how you or your students can take very ordinary pieces of recycled and new timber and turn them into one off masterpieces.

1. **Join us for an exploration into crafting the fundamental Kumiko Asa-no-ha pattern.**

**Presenters: Timberbits**

This is a TechExpo Workshop

Whether you’re a seasoned woodworker or just starting out, this workshop demonstration promises to be an enlightening journey into the world of Kumiko. In this 60-minute session, we’ll delve into the essential tools and jigs required, breaking down the process into 5 simple steps to guide you through your Kumiko endeavour.



Whether you're looking to introduce your students to this captivating art form or embark

on your own Kumiko journey, this workshop is designed to equip you with the

foundational knowledge and skills to get started.

1. **ARTEC WORKSHOPS**

These will be decided by the ARTEC Team as information comes to hand closer to the conference. iTE members are welcome to join these workshops.