



Mount Erin College: STEM Enrichment Program

(Science Technology Engineering Maths)

The STEM Enrichment Program provides students with a passion for Science, Technology, Engineering and/or Mathematics (STEM) to engage in the problem-solving process using STEM concepts.

Program Objectives:

- **Development of critical thinking skills:** Students will develop their problem-solving skills through real-world STEM challenges.
- **Relevant concepts:** Students will identify and analyse problems within their local community and/or global community.
- **Development of creativity and innovation:** This program promotes creativity and innovation through the design and prototyping of models, tools and/or products.
- **Industry-standard training:** Students gain in-depth knowledge about STEM disciplines, including access to the new state of the art facility 'Frankston Tech School'.
- **Communication skill development:** This program will foster collaboration, communication and project management skills, teaching students how to plan and manage resources through iterative design.
- **Connections with the community:** The program will provide opportunities for students to engage with industry experts and present to the wider community.
- **Career Investigation:** Exposure to career possibilities related to the STEM industry.

Program Structure:

The STEM Enrichment Program will follow a problem-solving cycle and be delivered throughout the school year in the following phases:

Phase 1: Problem Identification & Analysis

- Students identify a real-world issue in their community or broader society.
- Conduct research and analyse how a STEM-based solution could address the issue.

Phase 2: Design & Planning

- Students conceptualise and design a solution (model, tool, structure, or product).
- Create detailed plans including sketches, design features, and a proposed budget.
- Justify material choices, especially in relation to sustainability and effectiveness.

Phase 3: Prototype Development

- Build initial prototypes using available materials and tools.
- Engage in hands-on construction and iterative testing of their designs.
- Record challenges and improvements throughout the development process.

Phase 4: Testing & Modification

- Evaluate the effectiveness and functionality of the prototype.
- Identify areas for improvement and apply modifications to refine the design.
- Document the testing process, feedback, and final adjustments.

Phase 5: Presentation & Community Engagement

- Prepare a formal presentation or demonstration of the final product/model.
- Present to peers, teachers, and members of the community (e.g., local council, industry professionals).
- Reflect on the problem-solving process and the social or environmental impact of their solution.

Annual Cost: \$250

Which includes:

- Resources for prototype and final product development
- Incursion & Excursion costs
- Workshops

**Additional financial contribution may be requested on an individual project basis. This will be invoiced separately at the end of Semester One once the planning stage has been completed.*