

# Ingenious Projects

## AN INGENIOUS PROPOSAL

The Ingenious initiative (2007-2011) promotes Engineering, Physics and Materials, Design and Technology courses of study in schools, in association with the WA Curriculum Council. It supports the goals of the PEETA Framework and the objective of the WA Defence Industry Skills Strategy.

focus on Year 9-12 students:

The Ingenious Initiative aims to stimulate students' interest in engineering, materials and technology and aims to:

- Develop a suite of high-impact engineering projects
- Develop learning resources and teacher support materials
- Align school programs with TAFE and university requirements to facilitate credit transfers
- Assist in providing access to workshop equipment essential to projects and programs
- Provide personal development for D&T and physics teachers
- Provide mentoring assistance to teachers from industry, TAFE and university

## INGENIOUS Projects

Over a three-year period a suite of projects are being designed, developed, piloted and implemented in schools, TAFE colleges and universities, ranging in complexity and time requirements.

Each project reflects recent, well-regarded research and industry practices in WA and has the capacity to be modified, adapted or advanced.

Projects address the identified needs of teachers, students, enterprises and industry. Links to state and national engineering competitions will be established (such as Engineering Challenge, eV Challenge, Robocup, REA Formula 1 challenge, Solar Challenge).

The following types of projects are being developed.

### Project Type

Projects are designed in varying complexity with a range of time requirements:

- Alpha projects (2-5 week projects)
- Beta projects (10 week projects)
- Theta projects (20 week projects) and
- Omega projects (40 week to 1-year projects)

Course Alignment At least two types of projects will be designed to suit each unit or unit pair

- Engineering 1a, 1b,
- Engineering 2a, 2b,
- Engineering 3a, 3b

Career PathwaysProject support materials will promote engineering careers and provide information on a range of jobs.

Projects will provide explicit information on how they relate to a range of career foci for:

- Trades
- Technicians and para-professional
- Professional engineering

AppealProjects will be high-impact, engaging and appeal to a range of interests:

- Environmental
- Robotics and control
- Communications
- Sensors and optics
- Data logging

Projects will be specifically designed to encourage females to participate in engineering and take it up as a career.

[Download the Ingenious Industry Flow Chart Here](#)