

KINGSCLIFF HIGH SCHOOL

Subject Selection Information

Faculty:

Industrial Arts & Computing Studies

Subject: Human Powered Vehicle -
Engineering

Nature of the Course

- Study Industrial Technology – Engineering in a different format.
- Work in a team to prepare and race two Human Powered Vehicles in the QLD HPV Super Series (8 Riders and 2 Pit Crew/Team) whilst learning about engineering (Students choosing the subject commit to the competition and excursion costs).

The Engineering Core Module 1 (Year 9) includes common content and topic content that develops knowledge and skills in the use of tools, materials and techniques related to Engineered Structures and Engineered Mechanisms.

These skills are further developed in Year 10 through the study of:

- Alternative Energy
- School-Developed Module



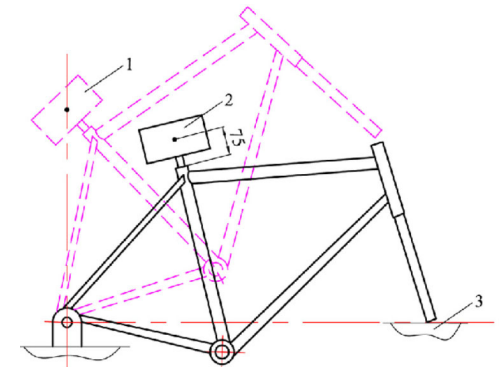
Nature of the Course

The 100Hr course includes:

- Engineered Structures



Bridge Challenge



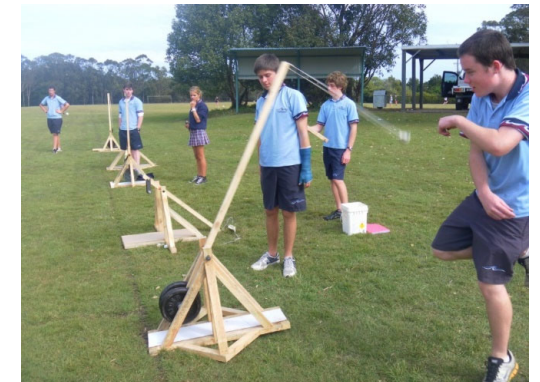
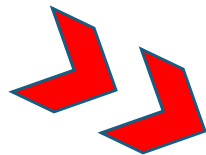
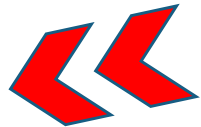
1. Mass vertically above rear axle
2. Mass 70 kg
3. Steel anvil

Bike Frame Design/Testing

Nature of the Course

The 100Hr course includes:

- Engineered Mechanisms



Trebuchet Challenge

Human Powered Vehicle Mechanism Testing/Analysis

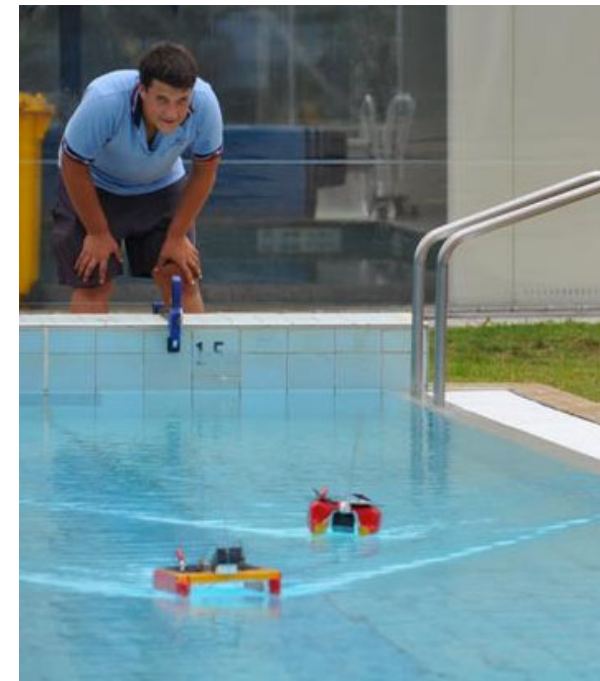
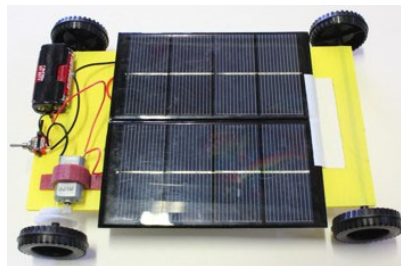
Nature of the Course

The 200Hr course includes:

- Alternative Energies



Solar Powered Cars



Solar Powered Boats

Nature of the Course

The 200Hr course includes:

- School Developed Module – Human Powered Vehicle Engineering & Racing



Assessment Structure

100Hr Course

2 x Design Projects and Design Folios
Research Assignment
Yearly Exam

200Hr Course

2 x Design Projects and Design Folios
Research Assignment
Yearly Exam

Elective fees for the Course:

100Hr Course - \$80 (one year)

200Hr Course - \$160 (two years)

Students who choose this subject are expected to pay the subject contribution fee to cover resource expenses.

Student who choose this subject are committing to be involved in racing the vehicle (mechanic or rider). Students are expected to pay for race entry and excursion costs.

Skills Required for this subject and/or any Prerequisites:

- Students may study up to **two** Industrial Technology subjects that contribute to the award of their Record of School Achievement (RoSA).
- Students will develop skills in drawing and communicating design ideas and plans.
- Students will apply material science and engineering maths principles to projects.

Career Opportunities

This course caters for students who wish to undertake further study in Engineering Studies in Stage 6. It is also suited to students wishing to pursue a related trade in engineering.

Career Opportunities

- * Aerospace Engineering
- * Agricultural Engineering
- * Biomedical Engineering
- * Building Services Engineers
- * Chemical Engineering
- * Coastal and Ocean Engineers
- * Civil Engineering
- * Electrical Engineering
- * Electronics and Telecommunications Engineering
- * Environmental Engineering
- * Food Engineering
- * Geotechnical Engineering
- * Hydraulic Engineering
- * Industrial Engineering
- * Marine Engineering
- * Materials Engineering
- * Mechanical and Manufacturing Engineering
- * Mechatronics Engineering
- * Minerals and Metallurgical Engineering
- * Mining Engineering
- * Petroleum and Petrochemical Engineering
- * Pharmaceutical Engineering
- * Process Control Engineering
- * Production Engineering
- * Resource Engineering
- * Risk Engineering
- * Software Engineering
- * Structural Engineering
- * Transportation Engineering