

Engineering Link Project

<http://telg.com.au/programs/elp/>



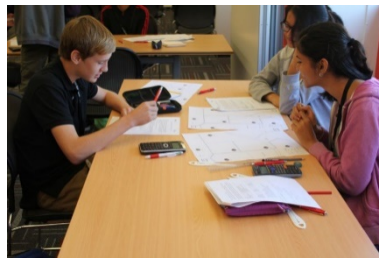
**ENGINEERING
LINK GROUP**

Forging links between
school and industry

Rationale:

There are several projects across Australia that work with primary and middle school students, but very few focus on inspiring senior school students. The Engineering Link Project, established in 1994, has two main foci:

- Demonstrate to students that the concepts they are learning in school are relevant by providing hands-on projects. That is, answer the “why are we learning this?” question.
- Allow students to work with professional engineers to help them understand what the engineering profession is really like from the people currently living it.



ELP modules all encompass the following characteristics:

- Providing a real situation/problem that engineers face in their work.
- Teaching the students any content/skills they need
- Test materials, complete calculations and design a solution. This is presented to the engineer.
- Construct their solution
- Test their solution against the criteria/constraints and evaluate

The key is that the students are **DOING**, not just **WATCHING**.

Students:

Students from Years 10, 11 and 12 are welcome to apply to attend. It is strongly recommended that they be studying a combination of:

- Physics
- Mathematics
- Engineering Studies/Technology
- Chemistry

Students should have an interest in science and mathematics.

Teachers:

We encourage STEM teachers to attend as observers. They will also be asked to support the engineer as and when needed, and provide crowd control (not the engineer’s job). Behaviour management is rarely required, as the students want to be there, and the projects are interesting and engaging.

Format of the ELP:

Across the two days of the project, students will participate in two different engineering disciplines, one per day. Students make their selections before they arrive. Each day follows the same format.

A day is broken into smaller sections (times are indicative only and are adjusted as required):

- (30 mins) Engineer introduces themselves and talks about their career, how they got to where they are, their career (and personal if appropriate) influences and what their particular engineering discipline is all about, from their perspective. A short presentation (PowerPoint or equivalent) is very effective here, including pictures of projects (where possible and appropriate).
- (60 mins) Engineer introduces activity and outlines what the students will be doing, as well as providing any background information about the concepts (TELG helps a lot here, with presentations and the like).
 - It is important that the activity is broken up into steps / stages for the students to follow. Again, the supporting teacher/TELG staff can assist in planning this if required).

Morning break (15 minutes)

- (60 mins) Student design their solution, doing any calculations and drawings necessary. Show the engineer their design to help ensure it is satisfactory and meets design requirements.

Lunch (45 minutes)

- (120 mins) Final submission to the engineer, including any changes required. Once approved, construction of solution.
- (60 mins) Test and evaluate their solutions against the criteria, then engineer provides an evaluation and debrief.
- (30 mins) Tour of the facilities.



Selections of Student Feedback – ELP 2015

At first, I was unsure about choosing engineering as my future career path, however after experiencing the schools and disciplines of engineering, I found that it was a career path that I would like to pursue in the future. (Anne-Marie)

I've had my eyes on UNSW before but seeing what it has to offer in depth has pulled me further towards this uni. (Cosette)

The hands on experience, availability of staff and students to ask questions, the support and encouragement of all those involved (Anon)

Loved seeing the final products in action, talking to ambassadors (Elizabeth)

Best part: actively engaging in the pracs allowing me to experience engineering first hand (Emily)