This unit introduces students to the basic concepts of electrical and electronic circuitry. Through practical model house construction, knowledge and skills are acquired that give students an opportunity to explore future directions in terms of both study and career choices in building and electrical industries. Students will investigate the use of sustainable energy in the home and install an environmental solution in their house. There is a heavy emphasis on practical work in the elective subject and students must observe safe practices at all times.

The assessment will be based on:
- Environmental investigations
- Installing their environmental solution
- Reading building plans
- Work diary
- House construction
- Electrical / electronic theory
- Electrical wiring of house
- Examination.

**Major Topics Covered**
- OHS requirements within practical workshops and tools.
- Reading plans and measuring
- Environmental issues and implementation
- Basic Electrical/ Electronics

**Pre-requisites Subjects - Nil**

A materials charge a fee is applied

**Robotics - Year 10 Elective (Semester 2)**

Students will construct and program a small but powerful robot called “Microbric”. The system is completely solderless and like nothing that has ever come before it. The patented electronic connection system not only makes the necessary electrical connections, but also holds the assembly together in a robust manner. Students will learn that robots have an important part to play in their technology rich lives. A very interesting project [http://www.microbric.com/ai2](http://www.microbric.com/ai2)
Assessment will be based on -
Assignments which explore students perception of robots and there actual uses in industry and society.
Practical construction of the Ai2 robot is quite simple with easy to follow instructions
Robot challenges require the student to test there Ai2 robot for correct operation and if necessary fault find any problems as they occur
Construction diary
Robot assignments
Robot challenges
Making a robot movie
Examination which assess all the above activities.

Major Topics Covered
  Safety
  Robot laws (Are they real)
  Follow instruction to construct the Ai2 Robot.
  What functions can the Ai2 do?
  Programming
  Faultfinding
  How to use multi media in the classroom

Pre-requisites Subjects - Nil

A materials charge a fee is applied