ELECTRICAL ENGINEERING SUMMER SCHOOL
Department of Electrical and Computer Engineering
17 - 20 January 2012
APPLICATION PROCESS
The EESS is open to students entering years 11 and 12 in 2012. If you are interested in this opportunity you will be required to submit:
1) a completed application form,
2) your most recent school results and
3) a personal statement to tell us a bit about yourself, your achievements and goals, and what interests you about a career in engineering.

Application forms are also available online at www.engineering.curtin.edu.au/outreach

Please scan and email your completed application to engineeringoutreach@curtin.edu.au or send by mail to:
EESS Program Manager
Engineering Outreach
Building 204, Curtin University
GPO Box U1987
Perth WA 6845

Applications close on Monday 7th November, 2011.

COST
The program is sponsored by the Australian Power Institute so there is no cost to participants. Students attending from outside the Perth metropolitan area will be eligible for a $300 bursary to assist with travel and accommodation.

Higher travel and accommodation assistance will be given to students attending from regional areas of WA such as the Pilbara, Kimberley, Gascoyne, Mid-West and Southern Goldfields regions.

A few places are available for science teachers and/or career advisors to participate on a first come, first served basis. Please contact the Program Manager, Larissa Andrews for more information on 9266 7884.

CAREER OPPORTUNITIES
One third of all power engineers will retire in the next 10 years. There is a global shortage. Electrical-Electronic engineering comprises more than 240 different professions and Electrical-Electronic engineers make up more than 80% of all engineers across the world.

Australian energy industry investments are worth more than $120 billion and engineers of all disciplines are integral to continue building Australia’s infrastructure. The Australian Power Institute estimates that the electrical power industry alone will require 2000 graduates in the next ten years, which means a career in engineering is also a good investment in your future.
This 4 day summer program, organised by Curtin’s Department of Electrical and Computer Engineering (ECE) and sponsored by the Australian Power Institute (API), aims to provide students entering years 11 and 12 in 2012 with an opportunity to discover the benefits and scope of a career in electrical engineering with a combination of hands-on engineering lab activities, site visits and guest speakers. The program will take place at Curtin University’s ECE Department, which is located in the Engineering precinct at Curtin’s Bentley Campus in Western Australia.

**PROGRAM OUTLINE**

While you are learning about electrical and computer engineering and Curtin, you will also be given the opportunity to take part in a number of hands-on engineering project sessions. These will cover:

**Mini-Computer**

In this module you will learn about computers: how they work, how they can be used and how smart (or dumb?) they really are. You will also build a small computer to control an application involving lights and electronic components.

**Power and Renewable Energy**

In the past, the electricity is generated from fossil fuel sources which include oil, coal, and natural gases. Generation of electricity from fossil fuel sources produce green house gases such as CO2 as by products. It is possible to control the green house gas emission by various methods but they are not always economically viable and environmentally friendly. On the other hand, why don’t we think of using renewable sources to generate electricity?

They are clean and environmentally friendly. In this activity, you will learn and get hands-on experience in generating electricity from wind, PV, and fuel cells, smoothing the output power of wind and PV to continuously supply energy, and maximising benefits of renewable energy while powering different types of loads.

**Electronics**

In this project, you will learn about component recognition and basic electronics. From test leads to solder, everything you need for the construction of your first digital multimeter will be provided with a detailed manual. With test questions and schematic supplied in the manual, you will enjoy making this electronic device.

**A Taste of Programming**

This is a brief introduction to programming, teaching the popular Java programming language with the aid of the Judo environment. Your ultimate task is to build a game of Pong, the first “Coin-Op” arcade game ever created (by Atari), which is basically tennis as seen from a top-down view. Both Java and Judo can be downloaded for free from the Internet, so you can continue working on the program (or any other program you want to write) at home.

Meals and light refreshments are provided to participants at no charge for the duration of the summer school, however participants may wish to purchase additional drinks/refreshments from food outlets and vending machines at their own cost. Additional information about the program will be sent to successful applicants.
WHAT PARTICIPANTS HAVE SAID ABOUT THE EESS

“Overall it has been a great experience. I enjoyed the hands-on activities more than anything else”

“I thoroughly enjoyed myself, met new people and would have liked it to go on longer. Thank you for a great experience, it will surely influence me in my future decision making”

“Make it a year-long club as well as a summer school!!!!”

“It was an awesome experience. I learned a lot of new things, realised what engineering actually is and also made a lot of new friends.”

“Greatly enjoyed meeting and speaking with the staff at Horizon Power during lunch, greatly enjoyed the program.”

“The staff were really generous and here to help. I was really happy with it - so glad I came.”