ELECTRICAL ENGINEERING AUTUMN CAMP

School Pathways Program
18 - 22 April 2016

scieng.curtin.edu.au/about-us/outreach/
ABOUT EEAC 2016

Engineering is not just about building bridges and buildings. If you are curious about climate change and renewable energy or if you have an interest in telecommunication gadgets, electrical circuits or software and robotics, Curtin’s Electrical Engineering Autumn Camp can give you some answers.

APPLICATION PROCESS

The EEAC is open to students enrolled in years 11 and 12 in 2016. If you are interested in this opportunity you will be required to:
1) Complete the online application form
2) Upload your most recent school results and
3) Upload a personal statement to tell us a bit about yourself, your achievements and goals, and what interests you about a career in engineering.

Register online at:
If you have any questions then please email engineeringoutreach@curtin.edu.au or send by mail to:
EEAC Program Manager
Engineering Outreach
Building 001, Curtin University
GPO Box U1987
Perth WA 6845

Applications close on Monday, 14 March 2016.

COST

For this year’s EEAC the students fees will be paid by the Department of Education for the School Pathways Program.

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, Gregg Mudhuwiwa for more information on 9266 7864.

CAREER OPPORTUNITIES

There are currently 29060[1] Electrical, Electronic, Communication, Software and Computer engineers employed across Australia in a wide range of areas including:
• Mining and Resources
• Aviation
• Energy
• Radio Astronomy
• Medicine
• Telecommunications
• Manufacturing
• Entertainment
• and many more.

PROGRAM OUTLINE

EEAC is a hands-on camp where students will learn about the different streams within Electrical and Software Engineering by participating in fun and challenging activities. Additionally, participants work with student-engineers to improve their skills in project management, team work, programming, prototyping, electrical circuits and soldering. Students will also be visiting local engineering companies to gain an insight into the types of jobs that are available in Electrical Engineering.

Activities during the week will cover the following areas of Electrical Engineering:

Engineering in Radio Astronomy

Get introduced into the advanced fields of Cosmology and Radio Astronomy and meet key scientists and engineers who are involved in designing the world’s most advanced scientific instruments to understand how our universe came about. Students will be introduced to the various key electronics and communication instruments that are used for this special field of science and engineering. Students will have an opportunity to do some radio astronomy and solar observation activities. They will also be introduced to the most advanced Square Kilometer Array project that is taking place in Western Australia.

Power and Renewable Energy

You will be introduced to the latest renewable energy technologies such as Hydrogen Fuel Cell Technology and Hybrid Renewable Energy Systems. You will see how hydrogen is generated through electrolysis and how the hydrogen is used to generate electricity using fuel cells. Visit our state of the art Green Electrical Energy Park where we house our most advanced renewable energy hybrid power generation system used in the field of renewable energy and smart grids. By the end of this activity you will know how to measure the key parameters such as voltage and current from solar panels while powering a load.

Electronics

Students will be learning about electronic component recognition and basic electronics. They will be soldering electronic components on printed circuit boards and testing the devices that they have constructed. By the end of this session you will understand basic circuit theory and be able to prototype your own simple circuits.

A Taste of Programming

This is a brief introduction to programming, teaching the popular python and C++ languages. Starting with a basic programs, the students will learn how to hack and secure computer systems, perform image manipulation, analysis and control an emergency beacon. The students will also be guided through live demos to give them a peek into their future as a student Engineer – by the end of the activity the students will be able to write their own programs for applications they might be interested in.

Robotics

Learn about the components of robotics systems by designing and assembling your own 3-D printed robots. Learn how mechanical, sensor and actuator sub-systems interact.

Engineering Project

On the final day of the camp you will work in groups to complete an engineering project in software, robotics or electronics. You will gain an insight into how engineers work while exercising some of the skills you have learned during the week.

Additional information about the program will be sent to successful applicants.

Meals and light refreshments are provided to participants at no charge for the duration of the Autumn Camp, however participants may wish to purchase additional drinks/refreshments from food outlets and vending machines at their own cost.
WHAT PARTICIPANTS HAVE SAID ABOUT THE EEAC

“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.”

For further information:

For more information about EEAC and the application process please contact:

EEAC Program Manager
Faculty of Science and Engineering
Tel: 08 9266 7884
Email: engineeringoutreach@curtin.edu.au