Have you ever wondered exactly what it is that engineers do?

Engineers make ideas and dreams become reality. From providing poverty-stricken communities with clean drinking water to collecting rock samples from the surface of Mars, engineers make it happen. Mobile phones, automated factory processes, renewable energy and life-saving medical equipment are all the result of engineering. Anybody can have cool ideas but it takes a coordinated team of engineers to apply their scientific knowledge and skills, to make those ideas a reality!

Most of the time engineers from different disciplines will work together on projects. Designing, building and operating a processing plant to refine a mineral resource can involve combining the knowledge of chemical engineers, mechanical engineers and electrical engineers to get the project done. Engineers are problem solvers who think ‘outside the box’. If this sounds like you, then this Summer School will give you insight into engineering as a career path. During the Summer School you will explore engineering as a profession and discover how stuff you’ve learned at school can be relevant to studying engineering at University. You will have the opportunity to talk to current engineering students and graduates and explore the exciting career opportunities that Engineering has to offer. You will also be able to participate in a range of hands-on engineering activities across the various engineering disciplines.

Visit the Engineers Australia MAKE IT SŌ website: www.makeitso.org.au
THE PROGRAM will include activities in:

Civil and Construction Engineering
This field of engineering is concerned with planning, construction and maintenance of the built environment around us such as bridges, roads, dams, railways and buildings, etc. Civil and Construction Engineers need to know how materials behave under different conditions and varying loads and stresses.

Mechanical Engineering
This field of engineering is concerned with the application of the physical and materials sciences to develop systems where motion is a key feature. Systems may comprise moving solid components combined to create a mechanism or machine. Alternatively, it may involve a fluid flowing within or around a solid structure. Examples: all types of vehicles, turbine engines, surfboards, conveyer belts, hypersonic space vehicles, etc.

Mechatronic Engineering
This is the marriage of mechanical engineering and electronic control systems to produce systems where motion is a key feature. These technologies also have useful applications in simulation for training pilots, firefighters and so forth, as well as in assisting people with disabilities.

Chemical Engineering
This field of engineering is concerned with the conversion of raw materials to useful end products. Examples: all types of vehicles, turbine engines, surfboards, conveyer belts, oil refinery, pharmaceuticals and products. Examples: water treatment, beer brewing, oil refinery, pharmaceuticals and processing plants of all kinds.

Petroleum Engineering
This field of engineering is concerned with the economic recovery of hydrocarbons (oil and natural gas) from reservoirs beneath the earth’s surface. Petroleum Engineering requires knowledge of how oil, water and gas behave within a porous reservoir, under varying conditions of high pressure and temperature.

Electrical and Communications Engineering
The field of electrical engineering is concerned with the generation, management and distribution of electrical power including the development of renewable energy systems. Communications engineering is concerned with signal processing and electronics, control systems and telecommunications. For example radio astronomy, aircraft instrumentation, seismic sensors, GPS systems, Apple iPhone technologies, system monitoring equipment in hospitals, etc.

Computer Systems Engineering
This field of engineering is concerned with design of microprocessors, computers, software and optimising the integration of software with computer hardware. Examples include all the latest games played on Nintendo Wii which incorporate various interactive accessories to enhance the gaming experience. These technologies also have useful applications in simulation for training pilots, firefighters and so forth, as well as in assisting people with disabilities.

All about: Outside the Box Engineering Summer School 2010

Registration

This event is free for students entering years 10 and 11 in 2010 but numbers are limited so please be sure to get your registration in early to secure your place. Applications close December 10, 2009. For more information contact Larissa Andrews on 9266 7884 or email L.Andrews@curtin.edu.au.

Venue
Building 204, Faculty of Science and Engineering, Curtin University of Technology, Kent St, Bentley WA

Application form

First Name: ..........................................................
Family Name: ..........................................................
Date of Birth: ..........................................................
Year Currently Attended: .......................................,
Email: .............................................................
Phone: ............................................................
High School Name: .........................................
City/Town/Suburb: ..............................................
Postcode: ..........................................................

Please fax, or scan and email this registration form before December 10, 2009 to:
Larissa Andrews, Engineering Outreach Coordinator
Faculty of Science and Engineering
Curtin University of Technology, Building 204, Rm 408
GPO Box U1987, Perth WA 6845
Tel: +61 8 9266 7884
Fax: +61 8 9266 2681
Email: L.Andrews@curtin.edu.au

Curtinnovation
Curtin aspires to be a leading edge university of technology. To fulfill this vision, we strive to be innovative and forward-looking in everything we do. It’s in our approach to teaching and learning. It’s in our research. It’s in our staff. It’s in our students. It’s in our graduates. It’s in the way we think and act. It’s what we call Curtinnovation.