OUTSIDE THE BOX
ENGINEERING SUMMER SCHOOL
Faculty of Science and Engineering
23 - 25 January 2012
engineering.curtin.edu.au
From providing developing 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.

### 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. 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, conveyor belts, hypersonic space vehicles!
Mechatronic Engineering
This is the marriage of mechanical engineering and electronic control systems to produce machines that operate on a logic algorithm. Examples: anti-lock braking systems, automatic washing machines, the mars rover vehicle, robotic arms used in manufacturing.

Chemical Engineering
This field of engineering is concerned with the conversion of raw materials to their more valuable form. Examples: water treatment, beer brewing, oil refinery 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 subsurface 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 Engineering
This field of engineering is concerned with the generation, management and distribution of electrical power, signal processing and electronics, control systems and telecommunications. Examples: renewable energy, managing the community’s powersupply, radio astronomy, aircraft instrumentation, system monitoring equipment in hospitals.

Computer 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 Wii, xbox and PS3 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.

Please note:
(1) this program is subject to change
(2) 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.
APPLICATION PROCESS
This program is open to students entering years 10 and 11 in 2012. Applications close Monday 7 November, 2011. All applicants will be notified of the outcome of their application by December, 2011.

WHAT TO INCLUDE IN YOUR APPLICATION
• Completed application form
• A copy of your latest school results
• A personal statement telling us what your favourite school subjects are and why.

COST
This event is free for students entering years 10 and 11 in 2012.

VENUE
The Engineering Pavilion, Building 215, Building Curtin University, Kent St, Bentley WA

APPLICATION FORM (please print clearly)

First Name: ___________________________ Date of Birth: ___________________________

Family Name: ___________________________ Date of Birth: ___________________________

High School Attended: ___________________________ Current School Year: ___________________________

Home Address: ___________________________

City/Town/Suburb: ___________________________

Email: ___________________________ Home Tel: ___________________________

Please fax, or scan and email this registration form together with your school results and personal statement, by Monday 7th November, 2011 to:

Engineering Outreach
Building 314
Faculty of Science and Engineering, Curtin University
GPO Box U1987, Perth WA 6845
Phone: 9266 9187
Fax: 9266 2584
Email: engineeringoutreach@curtin.edu.au

For more information about Outside the Box and the application process please contact:

Larissa Andrews
Engineering Outreach Coordinator
Faculty of Science and Engineering
Tel: 08 9266 7884
Email: engineeringoutreach@curtin.edu.au
Visit: engineering.curtin.edu.au/outreach

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