The University of Sydney

Civil Engineering

Profile: Jill Kilby

Jillian Kilby graduated in 2006 after completing a four-year degree in Civil Engineering. Jillian now works for Waterway Constructions, one of the largest specialist maritime construction contractors in Eastern Australia.

"My home is in Coonamble, in rural NSW. Growing up there has shaped my views for my career. Reversing the country-to-city brain drain and solving the problem of deteriorating infrastructure in rural communities are my two main goals. I saw Civil Engineering as the best option to improve my talents and achieve my goals.

Studying engineering at Sydney Uni focused my problem-solving skills, and my new job keeps me busy and challenged at all times. The best thing about civil engineering is that the end product of your hard work and dedication can be seen and quantified. My first job with Waterway Constructions was the rehabilitation of an aging wharf structure in Walsh Bay where the challenge was to maintain the heritage value of this 100 year-old structure and create a modern facility for community benefit. This gives me great satisfaction.

Civil Engineering: A Corporate profile

Arup is a global firm of consultants with 6000 employees working in more than 75 offices in 50 countries. Arup provides design, planning and project management services in every field related to infrastructure, industrial, building and corporate consulting.

Engineers from Arup have been inspired by nature in the design of the Bird's Nest athletics stadium and the Water Cube for the 2008 Olympics in Beijing.

The Water Cube design is based on the most effective sub-division of three-dimensional space – the fundamental arrangement of organic cells and the natural formation of soap bubbles.

The Weaire-Phelan bubble structure, a mix of 12 and 14 sided polyhedra, is the best solution to the Kelvin problem - how space can be partitioned into cells of equal volume with the least area of surface between them.

To bring the design of the Water Cube to life, the individual bubbles were incorporated into a plastic film and tailored like a sewing pattern. An entire section was pieced together and then put into place within the structure. The facade features interior and exterior films which were initially pumped with air and now are continuously pumped.

Michael Kwok, Arup's project director for the stadium says, "This stadium is a fantastic example of design collaboration and the role engineers play in defining what is possible in architecture. It also shows that China, and Beijing, want to innovate and have no fear in challenging existing systems and going beyond them. It also demonstrates China's ability to construct some of the world's most difficult buildings and shows off the country's determination to succeed."

Birds Nest image - ©ArupSport

Water Cube Image - ©Arup + Ben McMillan

Advanced Engineering & IT

The Advanced Engineering & IT program is open to students who have proven outstanding academic ability (ATAR of 98 or higher). It offers the opportunity to defer physics and mathematics in the first year and work in a supervised design group developing a premise into a working prototype. Entry to the program is by invitation from the Dean following the release of HSC results. The program is available in all engineering disciplines and continues in Years 2, 3 and 4.

Scholarships

The University of Sydney and the Faculty of Engineering & IT offer scholarships for high achievers based on academic merit and financial need.

For more information visit:
www.eng.usyd.edu.au/scholarships

Flexible Entry

The Flexible Entry Scheme is available for current HSC applicants whose ATAR may fall up to a maximum of 5 points below the normal cut-off.

Flexible Entry registrations can only be processed if an application for admission to an Engineering or IT degree has been lodged with UAC. Flexible Entry is only available to local applicants.

Registrations are now open and will close on 6 January 2010.

To register please visit:
www.eng.usyd.edu.au/apply/flexibleentry

Civil Engineering at The University of Sydney

Undergraduate degrees – What choices do I have?

Our programs offer flexibility and choice. We offer you engineering basics and science in the first two years, followed by predominantly civil engineering topics and specialisation in the final year. Combined degree options allow you to expand your skills base in commerce, science or arts to get two degrees. Strong theoretical skills, as well as broad generic skills are the focus in Civil Engineering.

Civil Engineering/Design in Architecture 2009 UAI - 95.20 (95.55 ATAR) UAC Code: 511762	Engineering plus the conceptual and aesthetical aspects of the design process
Civil Engineering 2009 UAI - 85.35 (86.55 ATAR) UAC Code: 511741	The 'standard' degree over 4 years gives you broad skills in management, structures, environment and geotechnics.
Project Engineering & Management 2009 UAI - 85.70 (86.90 ATAR) UAC Code: 511746	Engineering & solid project, planning & financial management skills prepares you for a career in project
Flexible First Year 2009 UAI - 85.05 (86.30 ATAR) UAC Code: 511756	An entrance to a variety of engineering fields in second year. All Civil Engineering specialisations are available.
Civil Engineering/Commerce 2008 UAI – 94.30 UAC Code – 511760	Open doors to a career in either engineering, infrastructure management or finance.
Civil Engineering/Science 2009 UAI - 90.45 (91.20 ATAR) UAC Code: 511770	Broaden your skills and explore diverse scientific interests such as geology, mathematics, physics, and more.
Civil Engineering/Law 2009 UAI - 99.60 (99.60 ATAR) UAC Code: 511801	A six year combined degree that will prepare you for increasing legal issues in all areas of technology.
Civil Engineering/Arts 2009 UAI - 89.95 (90.75 ATAR) UAC Code: 511780	Combine languages, psychology, history or cultural studies with engineering to prepare you for an international career?
Civil Engineering (Structural) 2009 UAI - 92.00 (92.65 ATAR) UAC Code: 511745	develop the skills to design buildings, bridges, sports stadia and more.
Civil Engineering (Geotechnical) 2009 UAI - 95.60 (95.95 ATAR) UAC Code: 511744	You will build the foundations upon which everything else is built, as well as tunnels, dams and more.
Civil Engineering (Construction) 2009 UAI - 85.85 (87.00 ATAR) UAC Code: 511742	Prepare for a career 'on site' – as you learn to supervise and manage our large construction sites.
Civil Engineering (Environmental) 2009 UAI - 92.00 (92.65 ATAR) UAC Code: 511743	Focus on environmental fluids and coastal studies, and be able to dramatically influence the environment.

Visit the Civil Engineering website for more information
www.civil.usyd.edu.au