UNDERGRADUATE GUIDE
ENGINEERING **2017**

Southern Cross University

ENGINEERING (HONOURS) IN CIVIL ENGINEERING

ENGINEERING (HONOURS) IN MECHANICAL ENGINEERING

'Utopia' – photo courtesy of Rudiger Wasser, winner of the SCU Engineering Photo Competition 2015.

It's all about U

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BACHELOR OF ENGINEERING (HONOURS) IN CIVIL ENGINEERING

The Bachelor of Engineering (Honours) in Civil Engineering equips students with the relevant skills and knowledge to provide a range of professional civil engineering services in regional, national and international environments. The course prepares graduates for work involving the planning, design, construction and maintenance of critical civil engineering infrastructure such as buildings, roads, bridges, dams, pipelines, transport systems, and water supply and waste water treatment facilities.

The course is structured around the 16 competencies identified by Engineers Australia as being essential to the graduating engineer. These competencies are broadly grouped into: knowledge and skills, application, personal and professional skills.

Throughout the course, students develop core theoretical knowledge and skills vital to the engineering profession and the ability to apply these in the most relevant software applications.

Major areas of study

Students have the option to select either an eight-unit major in Environmental Engineering or undertake a general course of study.

Students who follow the general course of study will focus on core areas such as: structural engineering, construction, project management, hydraulic engineering, water and wastewater engineering, geotechnical engineering, traffic and transport engineering, and environmental engineering. The course is strongly focused on project engineering from first year through to the final year. The course also addresses fundamental concepts that cross all disciplines including professional ethics, sustainability, conflict resolution and negotiation.

The Environmental Engineering major prepares students with the scientific knowledge and engineering skills needed to understand and assess the impact of an engineering project on the environment. This will enable graduates to develop sustainable and ethical systems that optimise the relationship between human activities and the natural and built environments.

All students undertake a full-year subject in engineering research (thesis unit) in their final year, which enables them to explore the frontiers of engineering development and contribute to new knowledge in their chosen field.

Professional recognition

Engineers Australia is the professional body representing engineering in Australia. Southern Cross University is undertaking staged accreditation for the degree from Engineers Australia. Accreditation of the course by Engineers Australia enables a student's qualification to be formally recognised in many different countries throughout the world in accordance with the Washington Accord, an international agreement governing recognition of engineering qualifications and professional competence, visit: **www.ieagreements.org/Washington-Accord**

Professional placement

Students further develop their skills and knowledge and prepare for their careers as professional civil engineers, during a 60-day industry placement.

Students engage with industry representatives from the early stages of the course, creating valuable professional networks.

Your career

As a civil engineer in a range of settings, including municipal and government road authorities, water supply and management agencies, construction companies, railway departments and companies, natural resource management organisations, consulting engineering companies, airport authorities, mining companies, irrigation authorities, research organisations and in tertiary education.

Summary

Location: Lismore

Duration: 4 years full-time or 8 years part-time

UAC code: 334103

QTAC code: 054201

Total units: 32 | **Indicative ATAR:** 72 | **Indicative OP:** 12

Facilities and resources

There are new engineering laboratories and teaching spaces in the science and engineering precinct at the Lismore campus.

Civil and mechanical engineering students have access to computer labs with specialist engineering software and state-of-the-art research and teaching laboratories equipped for the study of a range of sub-disciplines including materials conditioning and testing, concrete and structures testing, fluids and hydraulics testing, soils and geotechnical testing, and mechanics and physics. The laboratories are fully equipped with advanced analytical equipment to enable effective practical teaching and high level experimental research.