Facts About Careers in Computer Science, Engineering and Mathematics

- Spending on Information Technology in the Asia Pacific region is forecast to rise 5.5% in 2014 to reach over $810 billion.
- South Australia’s electronics, digital technology, telecommunications and ICT industry represents $7.5 billion and has grown at over 15% per year since 1990. SA represents an estimated 40% of Australia’s electronics industry.
- Job vacancies for ICT Professionals have risen by 55.2% since the start of 2010 and for Engineers by 42.5%. Both have risen at more than twice the rate of the average of other occupations and both are experiencing graduate shortages.
- As of August 2010, there are more vacancies for those with a bachelors degree or higher than for any other skill level. In South Australia, it is expected that 40% of projected industry demand for jobs will be at Bachelors degree level or higher.
- Almost 250,000 Australians have a Bachelor’s degree or above.
- Between the 2001 and 2006 census, the number of Engineers with a degree increased by 11,359, (although the number with an AQF diploma fell by 17,996).
- In 2014, the average graduate starting salary (Bachelors degree) in Engineering was $64,000.
- Flinders University is ranked 5 stars for Good teaching, Generic Skills and Overall Satisfaction for postgraduate students.
- The average salary for private sector “Above Level 5” Engineer was $283,452 in June 2012. The average package for an engineer with five years experience is over $110,000. Over 90% of graduates start on salaries higher than minimum rates prescribed in the major professional engineer awards.
- The APESMA survey showed that 75% of businesses reported that they experienced professional engineering or ICT shortages. The survey described the impact of the ballooning shortage of engineers as ‘potentially catastrophic’.
- 82% of businesses reported that there were moderate to severe consequences to the Australian economy as a result of the skills shortage in Engineering. In a March 2010 ANET report, 60% of engineers identified a skills shortage in their work area.
- Australia is facing a widening gap between the demand for ICT skills and the supply of qualified ICT workers. The Federal Government’s gradcareers website states that “so intense is the problem that top industry professionals predict a shortage of up to 20,000 engineers within six years”.
- Of total employment in ICT occupations, 208,600 workers were employed as ICT Professionals (Computing Professionals and IT Managers) and 46,300 were employed as Computing Support Technicians.
- Looming job shortages are being predicted more frequently. A report in March 2011 forecast a shortage of 1500 computing professionals.
- There is substantial growth in the Computer Services industry - job growth of 59,500 or 63.9% to 152,600. Although this is the industry most reflective of the demand for ICT workers, employment of ICT workers is spread across all industries.
- Growth in employment in ICT occupations is expected in the next five years and this will increase the demand for ICT Professionals - at a time when the supply of qualified graduates is expected to be considerably lower than at present.
- Skill shortage research undertaken by Skills Australia shows that there are national shortages for several Engineering and ICT skills areas. Every area of Engineering and many areas of Computing are listed on the Federal Government’s Skilled Occupations List, which nominates those occupations that are acceptable for migration to Australia.

Information Sources – ITWire, Engineers Australia, APESMA, AIIA, ANET, ACS, DIC, DEEWR, GradStats, TIA, 2011 and 2006 Australian Census.

www.flinders.edu.au
Degrees in Computer Science, Engineering and Mathematics

Biomedical Engineering
Bachelor of Engineering (Biomedical) (Honours) [SATAC Code 224781]
Bachelor of Engineering (Biomedical) (Honours) / Master of Engineering (Biomedical) [SATAC Code 224861]
Bachelor of Engineering (Mechanical) (Honours) / Master of Engineering (Biomedical) [SATAC Code 224871]
Bachelor of Engineering (Biomedical) (Honours) / Bachelor of Medical Science [SATAC Code 224782]
Bachelor of Engineering (Biomedical) (Honours) / Bachelor of Science [SATAC Code 224782]
Master of Engineering [by research]
Master of Engineering (Biomedical)
Doctor of Philosophy

Business and Technology
Bachelor of Business and Technology [not available as a standalone award]
Master of Business and Technology

Civil Engineering
Bachelor of Engineering (Civil) (Honours) [SATAC Code 224791]
Bachelor of Engineering (Civil) (Honours) / Bachelor of Science [SATAC Code 224792]
Master of Engineering [by research]
Doctor of Philosophy

Computer Science
Bachelor of Computer Science [SATAC Code 214821]
Bachelor of Computer Science (Honours) [SATAC Code 224431]
Bachelor of Behavioural Science (Psychology) / Bachelor of Computer Science [SATAC Code 214052]
Bachelor of Science [Computer Science major and extended major]
Bachelor of Science (Honours) - High Achievers Program [Computer Science major and extended major]
Master of Science (Computer Science)
Master of Science [by research]
Doctor of Philosophy

Computer Systems Engineering
Bachelor of Engineering (Computer Systems) (Honours) [SATAC Code 224801]
Bachelor of Engineering (Computer Systems) (Honours) / Bachelor of Science [SATAC Code 224802]
Bachelor of Engineering (Computer Systems) (Honours) / Bachelor of Computer Science [SATAC Code 224802]
Master of Engineering (Electronics)
Master of Engineering [by research]
Doctor of Philosophy

Digital Media
Bachelor of Information Technology (Digital Media) [SATAC Code 224551]
Bachelor of Information Technology (Digital Media) (Honours) [SATAC Code 224451]
Master of Science [by research]
Doctor of Philosophy

Electrical Engineering
Bachelor of Engineering (Electrical) (Honours) [SATAC Code 224811]
Bachelor of Engineering (Electrical) (Honours) / Bachelor of Engineering (Mechanical) [SATAC Code 224812]
Master of Engineering [by research]
Doctor of Philosophy

Electronic Engineering
Bachelor of Engineering (Electronics) (Honours) [SATAC Code 224821]
Bachelor of Engineering (Electronics) (Honours) / Bachelor of Science [SATAC Code 224822]
Bachelor of Engineering (Electronics) (Honours) / Bachelor of Computer Science [SATAC Code 224822]
Master of Engineering (Electronics)
Master of Engineering [by research]
Doctor of Philosophy

Engineering Science
Bachelor of Engineering Science [SATAC Code 214811]
Bachelor of Science [Engineering Science major] [SATAC Code 214331]
Graduate Diploma in Engineering Science [SATAC Code 2GD080]

Engineering Technology
Bachelor of Engineering Science [SATAC Code 224601]

Information Technology
Bachelor of Information Technology [SATAC Code 214201]
Bachelor of Information Technology (Honours) [SATAC Code 224441]
Bachelor of Information Technology / Bachelor of Commerce
Master of Information Technology
Master of Science [by research]
Doctor of Philosophy

Mathematical Sciences
Bachelor of Mathematical Sciences [SATAC Code 224631]
Bachelor of Mathematical Sciences / Bachelor of Computer Science [SATAC Code 224832]
Bachelor of Mathematical Sciences / Bachelor of Science [SATAC Code 224632]
Bachelor of Mathematical Sciences (Honours) [SATAC Code 224641]
Bachelor of Science - Mathematics major and extended major
Bachelor of Education/Bachelor of Science - Mathematics teaching major
Master of Science (Mathematics) [by coursework]
Master of Science [by research]
Doctor of Philosophy

Mechanical Engineering
Bachelor of Engineering (Mechanical) (Honours) [SATAC Code 224871]
Bachelor of Engineering (Electrical) (Honours) / Bachelor of Engineering (Mechanical) (Honours) [SATAC Code 224872]
Bachelor of Engineering (Mechanical) (Honours) / Master of Engineering (Biomedical) [SATAC Code 224871]

Naval Architecture
Bachelor of Engineering (Naval Architecture) (Honours) [with University of Tasmania - SATAC Code 224881]

Network and Cybersecurity Systems
Bachelor of Information Technology (Network and Cybersecurity Systems) [SATAC Code 224701]
Bachelor of Information Technology (Network and Cybersecurity Systems) (Honours) [SATAC Code 224881]
Master of Science [by research]
Doctor of Philosophy

Robotics
Bachelor of Engineering (Robotics) (Honours) [SATAC Code 224841]
Bachelor of Engineering (Robotics) (Honours) / Bachelor of Engineering (Electronics) [SATAC Code 224842]
Bachelor of Engineering (Robotics) (Honours) / Bachelor of Computer Science [SATAC Code 224842]
Master of Engineering [by research]
Doctor of Philosophy

Software Engineering
Bachelor of Engineering (Software) (Honours) [SATAC Code 224851]
Bachelor of Engineering (Software) (Honours) / Bachelor of Computer Science [SATAC Code 224852]
Bachelor of Engineering (Software) (Honours) / Bachelor of Science [SATAC Code 224852]
Master of Engineering [by research]
Doctor of Philosophy

Statistics
Bachelor of Science – Statistics minor. [SATAC Code 214331]

For naval architecture, the first two years are taken at Flinders University, the last two years at the Australian Maritime College, University of Tasmania, Launceston.

Details on how to apply for combined degrees can be found at www.flinders.edu.au/courses/combined-degrees.

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The information contained in this brochure is accurate at the time of publication: September 2014. Flinders University reserves the right to alter any course or topic contained herein without prior notice. Alterations are reflected in the course information available on the university’s website. For further information, please contact the School Office on (08) 8201 2297, enquiries@csem.flinders.edu.au.

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