

What is 'Engineering Tomorrow's Engineers'?

In November 2006, The Australian Technology Network of Universities (ATN) was awarded funding from the Federal Government's Collaborative and Structural Reform Fund (CASR). The funding was to develop a program that would address ways to alleviate the present engineering skills shortage and also responded to a widespread industry view that industry would benefit from engineering graduates having a wider range of skills, skills more relevant to the career of tomorrow's engineers.

Why has the ATN chosen to become so involved in this engineering issue?

The ATN as a group of Universities with campuses across five States, produces 26 per cent of Australia's engineers. As a group it has built its reputation on industry linkages, responses to industry needs and the applied nature of its undergraduate courses. The ATN Chair Margaret Gardner has stated that the areas of engineering and energy are of particular focus for the group. As such, it is pertinent to ensure that the ATN continues to refine internally and consult and research externally so that it can be proactive to industry and to wider national needs such as the present skills shortage of engineers.

Why introduce an aptitude test for potential students?

The vast changes to technology mean that engineering students no longer must fit the traditional mould. Engineering is fast-changing as a profession. For example, much of the advanced mathematics that was once an essential for an engineer is now done by software packages. This enables students who have the aptitude to be an engineer but who perhaps are not a straight A maths and science student, to consider engineering as a career.

In 2006 – well before the Federal Government's 2007 Budget announcement of a new pilot programme encouraging the use of aptitude tests by universities as an alternative or supplementary assessment method to tertiary entrance scores for assessing prospective students, the ATN approached the Australian Council for Education Research to develop an aptitude test that would enable the ATN to accept a wider group of engineering undergraduates – ones who could be successful engineers with the aptitudes and skills required for the future.

That test will be offered for the first time in September 2007. It will be offered at ATN universities across Australia and also to International students.

Why do we have a national skills shortage of engineers?

The strong economy and the resources boom have significantly increased the need for engineers at the same time as fewer school students have chosen engineering as a career path.

One of the main aims of “Engineering Tomorrow’s Engineers” is to reposition engineering in the school curriculum and in the minds and future career planning of senior school students. It is also to make the entry criteria via aptitude testing more relevant to what industry requires from the engineers of tomorrow – and by doing so increase the pool of potential engineers.

What does industry want from Australia’s engineering graduates?

ATN research has found that what industry says it requires is exactly what focus groups of graduates in all States have said would have better prepared them the workplace in 2007.

- More emphasis on project and people management
- Better understanding of bottom line imperatives
- Financial literacy
- More understanding of managing clients and marketing
- Less emphasis on the advanced maths of years three and four of the undergraduate courses and more on the practicalities of being an engineer today

The ATN is committed through “Engineering Tomorrow’s Engineers” to undertaking a comprehensive review of its engineering undergraduate courses to identify what can be refined to meet those needs.