

Fewer students learn high-demand skills

Dorothy Illing
09 July 2007

THE number of students studying chemistry, maths and physics is lower than it was 18 years ago, sparking further warnings about the skills crisis.

Overall science enrolments in universities appear to have bottomed out, but in disciplines that feed key areas of workforce demand they are in freefall.

A report commissioned by the Australian Council of Deans of Science finds that the proportion of students taking physics subjects is now only two-thirds of what it was in 1989.

The picture for chemistry is also gloomy and for maths it is worse: enrolments in maths fell from 7520 in 1989 to 4988 in 2005.

The decline has occurred against massive growth in higher education with student numbers doubling over the same period.

Trendier disciplines such as forensic science are attracting the biggest share of students, leaving the hard, or enabling, sciences -- the building blocks of many professions -- to struggle.

President of the deans council, John Rice, said university enrolment patterns were a barometer of the skills stock.

"If you look at it that way you ought to be pretty worried," he said. "If you look at the spread of jobs in an economy that needs to be technologically oriented, it needs that kind of background training."

Professor Rice said universities were still in the grip of the "scientist as geek" stereotype: they needed to encourage a broader understanding of how science impinged on every facet of the modern economy.

"The problem for the universities is that they keep training science graduates as though they're all going to end up in labs, wearing white coats and unable to park their bikes straight."

He pointed to Melbourne University's new model of a general undergraduate science degree followed by a specialist degree as one way of addressing the problem. This enabled science to be integrated into a wide spectrum of professions.

The Melbourne model also received strong endorsement from the peak science lobby, the Federation of Australian Scientific and Technological Societies.

Executive director Bradley Smith said while the national figures in some science disciplines were grim, it was not all doom and gloom.

For example, Sydney University was "going great guns" with its physics enrolments because it had focused on school students.

The report, by Monash University's Ian Dobson, shows a continuing slide in information technology students, forcing universities to look overseas to recruit students.

Almost half the enrolments in IT subjects and 29 per cent in engineering were international fee-paying students.

The study is the third in a series commissioned by the science deans over the past eight years to chart enrolment trends.

Professor Rice said there was some comfort from the fact that between 2002 and 2005, enrolments in science seemed to have bottomed out and even increased slightly.

"However, that's cold comfort to those people dealing with the current and growing skills crisis, who look at the current education system and see little that is different from the one that delivered such a dramatic decline."