

# Gender disparity in engineering

[Engineering](#)



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Further, it has been reported that women who do come engineers are more likely to leave the profession [5]. Several reasons have been put forward for women and girls' apparent avoidance of engineering, including societal beliefs and the learning environment that tends to limit female interest in science and mathematics; differences in cognitive abilities in the area of spatial skills; and bias limiting women's progress in the scientific and engineering fields Hill et al note that ... To diversify the STEM [science, technology, engineering and mathematics] fields, we must take a hard look at the stereotypes and biases that still pervade our culture. Encouraging more girls and women to enter these vital fields will require careful attention to the environment in our classrooms and workplaces and throughout our culture. A potential problem that can arise from such a gender imbalance is having the engineering workforce drawn from only about half of the potential skilled labor force. In the context of the Lignite Kingdom, it has been noted that ... Since the skills gap begins to bite, it is vital that the L-K capitalists on the skills of all of its available talent. Failure to promote careers in engineering for women will mean that we will continue to miss out on 50 per cent of the available talent, an oversight which could have serious repercussions for society and the future strength of the economy [7]. 213 The same arguments hold for Australia or any country with a gender imbalance in any workforce segment. Just as women are under-represented in the Australian engineering workforce overall, so they are in the engineering academic workforce.

Although the female proportion is increasing the distribution remains lopsided. The female underestimations in engineering faculties should not be

unexpected, because women and girls are also under-represented in the earlier sections of the pipeline. The fact that fewer girls than boys do science, mathematics and technology subjects at school, means fewer young women studying engineering programmes at university, with the consequential numerical imbalance in all sections of the engineering workforce, including in the staff rooms of universities' engineering faculties.

**DATA SOURCE** Australian universities are required to supply the Commonwealth education ministry with a range of student and staff data each year. From the unit record files supplied by each university, education ministry staff compile and publish a range of statistical summaries and aggregated data sets that can be used by researchers and others to suit their specific purposes. This article is based on analysis of aggregated data files for the period 2001 to 2009.

The ministry changed the manner in which it releases statistical information during 2011, and unfortunately, the data available for 2010 and 2011 do not provide any way of separating out engineering staff from staff in other disciplines. The specific population analysed was of university academic staff in ranks from associate lecturer to professor (Levels A to E, respectively) working in academic departments. Academics working in administration or in academic support roles were not included in this analysis.

The staff members enumerated were either full-time, or fractional full-time. Fractional full-time refers to staff with on-going positions that are for less than the whole week. The tables measure full-time equivalence (FEET), not the number of people. That is, a full-time academic has a full-time

equivalence of 1.0, as would two half-time academics. Staff with casual (hourly paid) positions were not included in this study because the data on casual staff are not as thorough as those for full-time and fractional full-time staff.