

Chemical Engineer	Queensland
ANZSCO Code: 2331-11	March 2009
Labour market rating	Shortage
Comment:	

Occupational demand

Chemical engineers design, implement and manage the construction and operation of industrial-scale plant and processes that produce chemical changes in materials, thus producing everyday products such as petrol, plastics and pharmaceuticals. In Queensland, most chemical engineers work in consultancy firms, directly in the manufacturing industry (particularly in oil, gas and mineral processing) or in water supply and treatment in the public sector. In recent years, demand for chemical engineers in Queensland has been driven by extensive government investment in water infrastructure projects to cater for strong State population growth and high levels of activity in the resources sector. Growth in the mineral resource sector can be seen in a report from Queensland's Department of Mines and Energy (DME) which shows oil production in Queensland increasing by 15 per cent to 532 megalitres over the year to June 2008, and 600 new coal seam gas wells drilled during this same period.

Occupational supply

Entry into the profession requires the completion of a four year degree in chemical engineering. Specific commencement figures for chemical engineers are difficult to ascertain as some universities offer a year of generic engineering subjects prior to students choosing a discipline. However, available data from the Department of Education, Employment and Workplace Relations show that between 2004 (26) and 2007 (42), commencements in chemical engineering courses increased by 61 per cent. The number of students completing their studies over the same time has grown accordingly with 65 chemical engineers graduating at the end of 2006. To work in Queensland, it is a mandatory requirement that chemical engineers be registered with the Board of Professional Engineers (Qld). Arrivals and departures data from the Department of Immigration and Citizenship suggest that overseas immigration may have supported supply to this profession as 190 self-identified other building and engineering professionals (which includes chemical engineers) migrated to Queensland in 2007-08.

Employer and industry comments/current labour market

None of the employers surveyed during this year's study were successful in filling vacancies for chemical engineers within six weeks of advertising. Employers in this sample group were seeking professionals with extensive experience and although respondents reported an increasing number of applicants to their advertisements over the last six months, only 15 per cent of the applicants were considered suitable. Applicants who were considered unsuitable typically lacked the depth of experience sought by the employer, or the specific skills required for the position. Applicants with more than five years experience in the oil and gas industry were especially difficult to recruit. Recruitment specialists advised that, contrary to previous years, employers are more likely to insist that shortlisted applicants possess specific skill sets and industry experience. A number of respondents reported that they had received a moderate level of interest from overseas. However, they did not give these candidates serious consideration because they were unable to demonstrate specific industry or Australian regulations experience.

Labour market outlook

The current State-wide shortage of chemical engineers is expected to continue throughout 2009 in line with ongoing developments in water management initiatives and the mineral resources projects. Despite the recent downturn, resource companies in Queensland are pushing ahead with expansions and the DME predicts that coal seam gas production will exceed 130 petajoules by 2009-10. Although graduate supply appears to be increasing, the present demand is for experienced chemical engineers, and immigration is not meeting the shortfall.