

TYPES OF ENGINEERS

QUESTION: What are the main types of engineers & how have numbers changed?

Different engineering specialisations have evolved because the solution to engineering problems often require different areas of expertise. In census statistics, there are 10 groups of specialist engineering encompassing over 50 different specialist areas. Between 2006 and 2011, all 10 groups, and all except a few specialisations within them, contributed to the 31.5% increase in the number of engineers. No one specialisation dominated: in most cases where there was particularly strong growth, the influence on overall growth was moderated by the small size of the group.

The main changes have been:

- General engineering group: 91,861 in 2006 and 117,921 in 2011; grew by 28.4%.
- Manufacturing engineering group: 3,898 in 2006 and 5,255 in 2011; grew by 34.8%.
 - Manufacturing engineers: grew from 1,349 to 2,419 or 79.3% by 2011.
- Process and resource engineering group: 15,315 in 2006 and 19,258 in 2011; grew by 25.7%.
 - Chemical engineers: 5,726 in 2006 and 7,618 in 2011; grew by 33.0%.
 - Mining engineers: 3,366 in 2006 and 5,013 in 2011; grew by 48.9%.
 - Materials engineers: 3,727 in 2006 and 4,041 in 2011; grew by 8.4%.
- Automotive engineering group: 253 in 2006 and 612 in 2011.
- Mechanical and industrial engineering group: 15,302 in 2006 and 22,169; grew by 44.9%.
 - Mechanical engineers: 14,035 in 2006 and 20,161 in 2011; grew by 43.6%.
 - Industrial engineers: 999 in 2006 and 1,604 in 2011; grew by 60.6%.
- Civil engineering group: 19,181 in 2006 and 27,232 in 2011; grew by 42.0%.
 - Civil engineers: 17,325 in 2006 and 24,249 in 2011; grew by 40.0%.
- Electrical and electronic engineering group: 38,329 in 2006 and 50,868 in 2011; grew by 32.7%.
 - Electrical engineers: 13,712 in 2006 and 17,964 in 2011; grew by 31.0%.
 - Electronic engineers: 5,314 in 2006 and 6,708 in 2011; grew by 26.2%.
 - Computer engineers: 3,555 in 2006 and 4,699 in 2011; grew by 32.2%.
 - Specialists in communications technology: 4,084 in 2006 and 6,697 in 2011; grew by 64.0%.
- Aerospace engineering group: 9,723 in 2006 and 11,824 in 2011; grew by 21.6%.
 - Aerospace engineers: 1,401 in 2006 and 1,941 in 2011; grew by 38.5%.
 - Aircraft operations engineers: 7,598 in 2006 and 9,003 in 2011; grew by 18.5%.

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- Maritime engineering group: 3,955 in 2006 and 4,455 in 2011; grew by 12.6%.
 - Maritime engineers: 1,002 in 2006 and 1,238 in 2011; grew by 23.6%.
- Other engineering group: 2,802 in 2006 and 4,295 in 2011; grew by 53.3%.
 - Environmental engineers: 1,067 in 2006 and 1,653 in 2011; grew by 54.9%.
 - Biomedical engineers: 409 in 2006 and 780 in 2011; grew by 90.7%

Statistics for both genders are available in the publication listed below.

If you need further details about this answer two options are available. Either

- Look at the Policy Note “Change and Engineering Specialisations”, February 2013 at www.engineersaustralia.org.au/
- or send an email to policy@engineersaustralia.org.au and ask your question.