



Communications

Higher Degrees and Honours Bachelor Degrees in Mathematics and Statistics completed in Australia in 2006

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This report presents data relating to students who completed Honours or Higher Degrees in Mathematics during 2006. The data are part of an on going project for the Australian Mathematical Society and should be read in conjunction with previous reports [1], [2], [3], [4], [5], [6], [7] covering the period 1993–2005.

Appendix 1 presents data for students completing Honours degrees in 2006, at all Universities in Australia. Within each institution, the data are broken down into male and female students and into the three traditional areas of Mathematics: Pure; Applied and Statistics. There is also the general category ‘Mathematics’ for institutions which do not differentiate between the conventional areas. Finally, there is an ‘Other’ category for newer areas of mathematics such as Financial Mathematics. Each category is further broken down into grades of Honours awarded. The appendix shows that in 2006 there were 154 Honours completions in Australia, with 106 (69%) receiving First Class Honours (compared with 105 out of 152 (69%) in 2005 and 99 out of 138 (72%) in 2004). In the three years prior to 2004 there were approximately 160 Honours completions each year.

Figure 1 presents the total number of students completing Honours degrees in Mathematics over the period 1959–2006. It shows that in 2006 the number of graduates continues to climb back to the levels of the period 2001–2003. The figure also shows the numbers of male and female students who completed Honours over the same time period. For last year there was a large jump in the number of male students (115, up from 99). This increase was matched by a similar drop in the number of female students (39, down from 53).

Appendix 2 presents the data for Higher Degree completions in 2006. The data are broken down into Coursework Masters, Research Masters and PhD degrees, with the latter two divided into the three typical areas of Mathematics. These data are also represented in Figure 2, as part of the overall Higher Degree data for the period 1959–2006. The figure shows that: (1) the number of PhD completions has dropped slightly from the previous year and returned to levels typical of the 2000–2003 period — it is interesting to note that of the 69 completions in 2006, 45 were by male students and 24 by female students; (2) the number of Research Masters completions has increased after several years of decline; and (3) the number of Coursework Masters completions shows a large drop after the considerable increase in the previous year.

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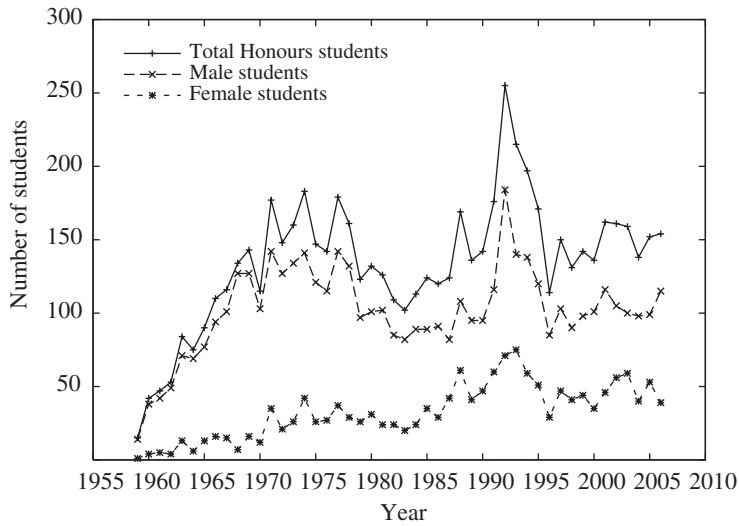


Figure 1. Number of Honours degrees completed in Mathematics and Statistics, 1959–2006.

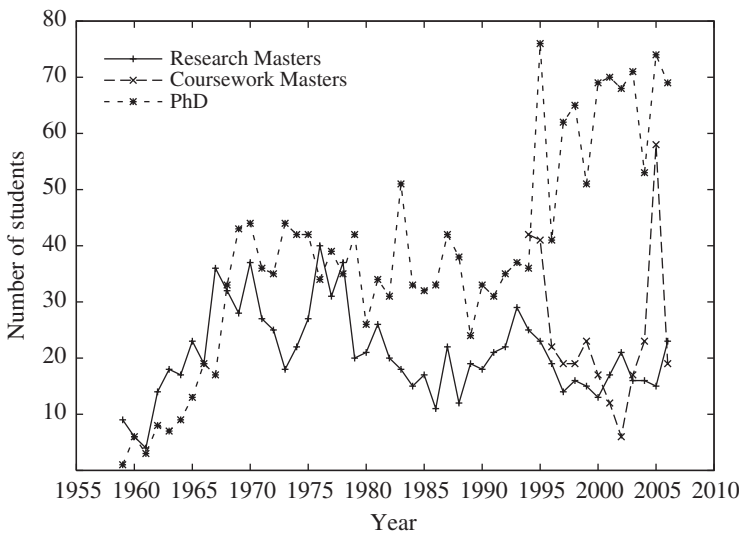


Figure 2. Number of research higher degrees completed in Mathematics and Statistics, 1959–2006.

Finally, Appendix 3 gives a list of completed Research Masters and PhD theses awarded in 2006.

For those who are interested in the finer details, the raw data are available from links on the website www.cit.gu.edu.au/maths. There is an Excel spreadsheet containing the complete data for 2006 as well as spreadsheets containing cumulative data from 1959 for Honours, Research Masters and PhD degrees.

I would like to thank the many people who took the time and effort to collect this data and forward it to me. It is pleasing to see that there were 31 out of a possible 38 responses to requests for data, an increase over recent years. Next year I will endeavour to obtain data earlier in the year, when the figures are still fresh in

peoples' minds. Finally, if, having read this report, you would like to contribute missing data for 2006, I can add it to the data on the website.

References

- [1] Petocz, P. (1996). Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia 1993. *Gaz. Aust. Math. Soc.* **23**, 123–133.
- [2] Johnston, P. and Petocz, P. (2002). Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia in 1994 and 1995. *Gaz. Aust. Math. Soc.* **29**, 62–72.
- [3] Johnston, P. (2003). Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia between 1996 and 2001. *Gaz. Aust. Math. Soc.* **30**, 42–44.
- [4] Johnston, P. (2003). Higher degrees and honours bachelor degrees 2002. *Gaz. Aust. Math. Soc.* **30**, 315–320.
- [5] Johnston, P. (2004). Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia in 2003. *Gaz. Aust. Math. Soc.* **31**, 314–319.
- [6] Johnston, P. (2005). Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia in 2004. *Gaz. Aust. Math. Soc.* **32**, 320–325.
- [7] Johnston, P. (2006). Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia in 2005. *Gaz. Aust. Math. Soc.* **33**, 249–254.

Appendix 1. Number of Honours degrees completed in Mathematics and Statistics, 2006.

| Uni. | Sex | Maths | | | | Pure | | | | Applied | | | | Statistics | | | | Other | | | | Honours Total |
|--------|-----|-------|-----|-----|-----|------|-----|-----|-----|---------|-----|-----|-----|------------|-----|-----|-----|-------|-----|-----|-----|---------------|
| | | I | IIA | IIB | III | I | IIA | IIB | III | I | IIA | IIB | III | I | IIA | IIB | III | I | IIA | IIB | III | |
| ACU | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| ADF | M | | | | | | | | | 1 | | | | | | | | | | | | 1 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| ANU | M | 3 | 1 | | | | | | | | | | | | | | | | | | | 4 |
| | F | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| BOU | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| CDU | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | 1 | | | | | | | | | | | | | | | | 1 |
| CQU | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| CSU | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| CUT | | | | | | | | | | | | | | | | | | | | | | 0 |
| DKU | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| ECU | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| FDU | | | | | | | | | | | | | | | | | | | | | | 0 |
| GFU | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| JCU | | | | | | | | | | | | | | | | | | | | | | 0 |
| LTU | | | | | | | | | | | | | | | | | | | | | | 0 |
| MDU | M | | | | | | | | | | 1 | | | | | | | | | | | 1 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| MNU | M | 4 | 1 | | | | | | | 1 | 1 | | | | | | | 1 | | | | 8 |
| | F | 2 | | | | | | | | | | | | | | | | | | | | 2 |
| MQU | M | 2 | | | | | | | | | | | | | | | | | | | | 2 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| QUT | M | | | | | 1 | | | | | | | | 1 | | | | | | | | 2 |
| | F | | | | | | | | | | | | | 2 | | | | | | | | 2 |
| RMT | M | | | | | 1 | | | | 2 | | | | 1 | | | | | | | | 4 |
| | F | | | | | 1 | | | | 2 | | | | | | | | | | | | 3 |
| SCU | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| SUT | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| UAD | M | | | | | 1 | 3 | | 2 | 1 | | | | 1 | | | | | | | | 8 |
| | F | | | | | | | | | 2 | | | | 2 | | | | | | | | 4 |
| UBR | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| UCB | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| UMB | M | | | | | 3 | 1 | | 2 | 2 | 2 | 1 | | 4 | | | | | | | | 15 |
| | F | | | | | 1 | | 1 | | 1 | 1 | 1 | | | 1 | | | | | | | 6 |
| UNC | M | 3 | 1 | 1 | | | | | | | | | | | | | | | | | | 5 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| UNE | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| UNS | M | | | | | 2 | 1 | | | 4 | 2 | | | 2 | | | | | | | | 11 |
| | F | | | | | 1 | | 1 | | 1 | 1 | | | | | | | | | | | 4 |
| UQL | M | | | | | 9 | | | | 3 | | | | 1 | | | | | | | | 13 |
| | F | | | | | 1 | | | | 3 | | | | 1 | | | | | | | | 5 |
| USA | | | | | | | | | | | | | | | | | | | | | | 0 |
| | | | | | | | | | | | | | | | | | | | | | | 0 |
| USN | M | | | | | 7 | 1 | | | 6 | 2 | 1 | | | | | | | | | | 17 |
| | F | | | | | 1 | | | | 1 | | | | 1 | 1 | | | | | | | 4 |
| USQ | | | | | | | | | | | | | | | | | | | | | | 0 |
| | | | | | | | | | | | | | | | | | | | | | | 0 |
| UTM | M | | | | | 2 | 1 | | | | | | | 1 | | | | | | | | 4 |
| | F | | | | | 1 | | | | | | | | | | | | | | | | 1 |
| UTS | M | | | | | | | | | 2 | 2 | | | | | | 2 | | | | | 6 |
| | F | | | | | | | | | | | 1 | | | | | | | | | | 1 |
| UWA | M | | | | | 4 | | | | | | | | | | | | | | | | 4 |
| | F | | | | | 1 | | | | | | | | | | | | | | | | 1 |
| UWG | M | | | | | 2 | | | | 1 | 1 | | | 2 | | | 3 | | | | | 9 |
| | F | | | | | | | | | | | | | | | | 2 | | | | | 2 |
| UWS | M | | | | | | | | | 1 | | | | | | | 1 | | | | | 2 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| VUT | M | | | | | | | | | | | | | | | | | | | | | 0 |
| | F | | | | | | | | | | | | | | | | | | | | | 0 |
| Totals | | 16 | 3 | 1 | 0 | 40 | 7 | 2 | 4 | 32 | 14 | 4 | 1 | 14 | 7 | 2 | 0 | 4 | 2 | 0 | 1 | 154 |

Appendix 2. Number of research higher degrees completed in Mathematics and Statistics, 2006.

| Uni. | Sex | Coursework Masters | Research Masters | | Total | PhD | | | Total | |
|------|-----|-----------------------|------------------|--------------------|-------|------|--------------------|--------------------|-------|----|
| | | | Pure | Applied Statistics | | Pure | Applied Statistics | Applied Statistics | | |
| ACU | M | | | | 0 | | | | 0 | |
| | F | | | | 0 | | | | 0 | |
| ADF | M | | | | 0 | | | | 0 | |
| | F | | | | 0 | | | | 0 | |
| ANU | M | | 1 | 1 | 2 | 1 | 1 | 2 | 4 | |
| | F | | | | 0 | | 2 | 1 | 3 | |
| BOU | M | | | | 0 | | | | 0 | |
| | F | | | | 0 | | | | 0 | |
| CDU | M | | | | 0 | | | | 0 | |
| | F | | | | 0 | | | | 0 | |
| CQU | M | | | | 0 | | 2 | | 2 | |
| | F | | | | 0 | | | | 0 | |
| CSU | M | | | | 0 | | | | 0 | |
| | F | | | | 0 | | | | 0 | |
| CUT | | | | | 0 | | | | 0 | |
| DKU | M | | 1 | | 1 | | | | 0 | |
| | F | | | | 0 | | | | 0 | |
| ECU | M | | | | 0 | | 1 | | 1 | |
| | F | | | 1 | 1 | | | 1 | 1 | |
| FDU | | | | | 0 | | | | 0 | |
| | | | | | 0 | | | | 0 | |
| GFU | M | | | | 0 | | | | 0 | |
| | F | | | | 0 | | | | 0 | |
| JCU | | | | | 0 | | | | 0 | |
| | | | | | 0 | | | | 0 | |
| LTU | | | | | 0 | | | | 0 | |
| MDU | M | | | | 0 | | | 1 | 1 | |
| | F | | | | 0 | | | | 0 | |
| MNU | M | | 1 | | 1 | | 3 | | 3 | |
| | F | | 2 | | 2 | | | | 0 | |
| MQU | M | | | | 0 | | | | 0 | |
| | F | | | | 0 | | | | 0 | |
| QUT | M | 1 | 1 | | 1 | | 2 | 1 | 3 | |
| | F | | | | 0 | | 2 | 1 | 3 | |
| RMT | M | 12 | | 4 | 4 | 1 | 2 | | 3 | |
| | F | 1 | | 3 | 3 | | | | 0 | |
| SCU | M | | | | 0 | | | | 0 | |
| | F | | | | 0 | | | | 0 | |
| SUT | M | 2 | | | 0 | | | 2 | 2 | |
| | F | 2 | 1 | 1 | 2 | | | | 0 | |
| UAD | M | | 2 | | 2 | | 2 | 2 | 4 | |
| | F | | | | 0 | 1 | 1 | | 2 | |
| UBR | M | | | | 0 | | | | 0 | |
| | F | | | | 0 | 1 | | | 1 | |
| UCB | M | | | | 0 | | | | 0 | |
| | F | | | | 0 | | | | 0 | |
| UMB | M | | | | 0 | 2 | 4 | 1 | 7 | |
| | F | | | 1 | 1 | | 1 | 1 | 2 | |
| UNC | M | | | | 0 | 2 | | | 2 | |
| | F | | | | 0 | | | 1 | 1 | |
| UNE | M | | 1 | | 1 | | | 1 | 1 | |
| | F | | | | 0 | | | | 0 | |
| UNS | M | | | | 0 | | 1 | | 1 | |
| | F | | | | 0 | 1 | | 1 | 2 | |
| UQL | M | | 1 | | 1 | | 4 | | 4 | |
| | F | | | | 0 | | 1 | 1 | 2 | |
| USA | | | | | 0 | | | | 0 | |
| | | | | | 0 | | | | 0 | |
| USN | M | | | | 0 | 2 | 2 | | 4 | |
| | F | | | | 0 | 1 | | 1 | 2 | |
| USQ | | | | | 0 | | | | 0 | |
| | | | | | 0 | | | | 0 | |
| UTM | M | | | | 0 | | 1 | | 1 | |
| | F | | | | 0 | | | | 0 | |
| UTS | M | | | 1 | 1 | | 1 | | 1 | |
| | F | | | | 0 | | | | 0 | |
| UWA | M | | | | 0 | 1 | | | 1 | |
| | F | | | | 0 | 3 | | 1 | 4 | |
| UWG | M | 1 | | | 0 | | | | 0 | |
| | F | | | | 0 | | | | 0 | |
| UWS | M | | | | 0 | | | | 0 | |
| | F | | | | 0 | | | | 0 | |
| VUT | M | | | | 0 | | | 1 | 1 | |
| | F | | | | 0 | | | | 0 | |
| | | 19 | 5 | 6 | 12 | 23 | 16 | 33 | 20 | 69 |

Appendix 3. Higher Degrees in mathematics and statistics, 2006.

| Uni. | Sex | Degree | Area | Name | Title |
|------|-----|--------|---------|-------------------|--|
| ANU | M | MSc | Pure | K. Tong | Semifinite Index Theory and $SU_q(2)$ |
| | M | MSc | Pure | A. Sly | Self-similarity, multifractality and multifractality |
| | F | PhD | Applied | K. Manson | Modelling of accretion discs with smoothed particle Hydrodynamics |
| | F | PhD | Stats | J. Spate | Data mining as a tool for investigating environmental systems |
| | M | PhD | Pure | D. Brander | Isometric immersion of a flat manifold into a sphere as an integrable system |
| | F | PhD | Applied | K. Carpio | Long-range dependence of Markov processes |
| | M | PhD | Stats | M. Li | Nonparametric period estimation using the periodogram |
| | M | PhD | Applied | M. Oelkers | A class of energy minimisers for the rotating drop problem |
| | M | PhD | Stats | S. Hosseini-Nasab | On properties of functional principal components analysis |
| QUT | F | PhD | Stats | M. Forrester | Epidemic models and inference for the transmission of hospital pathogens |
| | F | PhD | Applied | M. Penny | Mathematical modelling of dye-sensitised solar cells |
| | M | PhD | Stats | S. Hoyle | Statistical methods for assessing and managing wild populations |
| | M | PhD | Applied | T. Moroney | An investigation of a finite volume method incorporating radial basis functions for simulating nonlinear transport |
| | F | PhD | Applied | E. McBryde | Mathematical and statistical modelling of infectious diseases in hospitals |
| SUT | F | MSc | Applied | A. Chakraborty | Numerical study of biological problems in a predator-prey system |
| | M | PhD | Stats | T. Barnett | Mathematical modelling in hierarchical games with specific reference to tennis |
| | M | PhD | Stats | D. Forbes | Dynamic prediction of Australian Rules football using real time performance statistics |
| UBR | M | PhD | Pure | K. Sugeng | Magic and antimagic graph labeling |
| UMB | F | PhD | Stats | J. Cain | Random graph processes and optimisation |
| | M | PhD | Pure | J. Coffey | 3-manifolds built from injective handlebodies |
| | M | PhD | Applied | C. Fricke | Applications of integer programming in open pit mining |
| | M | PhD | Applied | C. Green | Dynamics of atomic force microscope cantilever beams in fluids |
| | M | PhD | Pure | D. Heard | Computation of hyperbolic structure on 3-dimensional orbifolds |
| | M | PhD | Applied | J. Looker | The electrokinetics of porous colloidal particles |
| | M | PhD | Stats | K. Prendergast | Steiner ratio for gradient constrained networks |
| | F | PhD | Applied | M. Ramakrishnan | Distributed approaches to capacity reallocation in networks |
| | M | PhD | Applied | S. Walsh | A thermomechanical approach for micromechanical continuum models of granular media |
| | M | MSc | Stats | X. Wang | Approximate distributions of the number of run occurrences |
| UNC | M | PhD | Pure | I. Gray | Construction methods for vertex-magic total labelings of graphs |
| | M | PhD | Pure | J. Kimberley | Classifying Burger-Mozes groups and the algebras generated from their actions |
| | F | PhD | Stats | E. Stojanovski | Statistical assessment of the relationship between life events and health |
| UNE | M | MSc | Pure | B. Bujeya | Some further remarks on the existence and uniqueness for the generalised logistic equation on R^N |
| | M | PhD | Stats | B. Carson | Beowulf applications in statistics |
| USN | M | PhD | Pure | P. O'Sullivan | The generalised Jacobson-Morosov theorem |
| | F | PhD | Pure | L. Ratliff | The alternating Hecke algebra and its representations |
| | M | PhD | Pure | G. White | Enumeration-based algorithms in linear coding theory |
| | M | PhD | Applied | A. Merrifield | An investigation of mathematical models for animal group movement, using classical and statistical approaches |
| | M | PhD | Applied | T. Schaerf | On contour crossings in contour-advective simulations of geophysical fluid flows |
| | F | PhD | Stats | D. Perera | Saddlepoint approximation methods in the analysis of panel time series data |
| UWA | F | PhD | Pure | S. Ambrose | Matrix groups: theory, algorithms and applications |
| | M | PhD | Pure | S. Brown | Finite reducible matrix algebras |
| | F | PhD | Stats | I. Casas Villalba | Statistical inference in continuous-time models with short-range and/or long-rang dependence |
| | F | PhD | Pure | F. Evans | Syntactic models with applications in image analysis |
| | F | PhD | Pure | J. Xu | On closures of finite permutation groups |