Higher Degrees and Honours Bachelor Degrees in Mathematics and Statistics Completed in Australia in 2004

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This report presents data relating to students who completed Honours or Higher Degrees in Mathematics during 2004. The data is 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] covering the period 1993–2003.

Table 1 presents data for students completing Honours degrees in 2004, 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 classes of Honours awarded. The table shows that in 2004 there were 138 Honours graduates in Australia (this is down from approximately 160 over each of the past three years), with 99 (72%) receiving First Class Honours (compared with 119 (74%) in 2003). The downturn in student numbers is possibly due to the incomplete data collection with only 25 responses received out of a possible 37. This compares with 30 responses last year. Despite the decrease in numbers of students, the standard is just as high.

Figure 1 presents the total number of students completing Honours degrees in Mathematics over the period 1959–2004. It shows that in 2004 the number of graduates has reduced to the levels over the period 1997-2000.

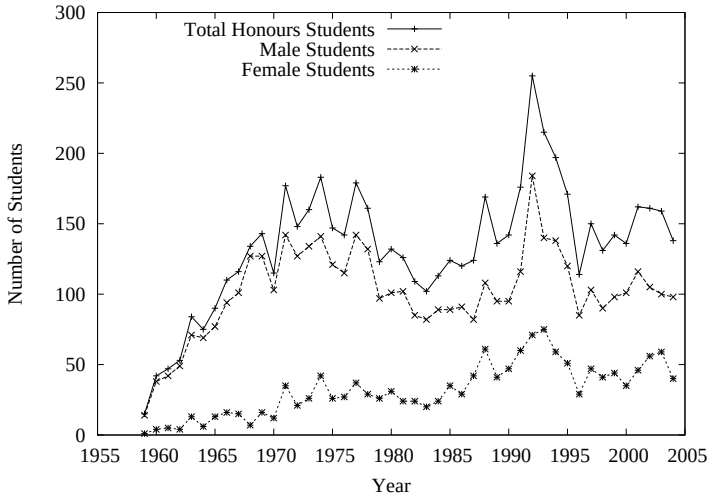

Figure 1. Number of Honours degrees completed in Mathematics and Statistics, 1959-2004.

The figure also shows the numbers of male and female students who completed Honours over the same time period. Unfortunately, there was a more significant drop in the number of female graduates than male graduates.

Table 2 presents the data for Higher Degree completions in 2004. 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 1959–2004. The figure shows that: (1) the number of PhD completions has dropped considerably compared to the past few years; (2) the number of Research Masters completions remains steady and (3) the number of Coursework Masters completions continues to increase.

Finally, Table 3 gives a list of completed Research Masters and PhD theses awarded in 2004.

For those who are interested in the finer details, the raw data is available from links on the web page www.cit.gu.edu.au/maths. There is an Excel spreadsheet containing the complete data for 2004 as well as spreadsheets containing cumulative data from 1959 for Honours, Research Masters and PhD degrees. Readers might be interested to know that this data was accessed as part of the Review of Statistics conducted by the Australian Bureau of Statistics earlier in the year.

I would like to thank the many people who took the time and effort to collect this data and forward it to me. 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 2004, I can add it to the data on the website and republish these tables if there are significant changes.

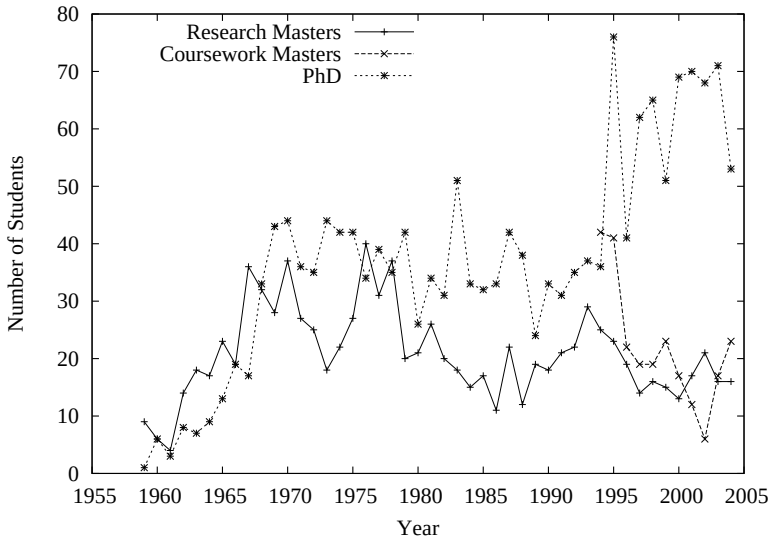

Figure 2. Number of research higher degrees completed in Mathematics and Statistics, 1959-2004.

Table 3: Higher Degrees in Mathematics and Statistics, 2004

Uni.	Degree	Area	Name	Title
ANU	PhD	Appl	Paola Pozzi	Finite Element Approximations to Solutions of Geometric Problems
	PhD	Pure	Tamiru Jarso	Automorphisms Fixing Subnormal Subgroups of Certain Infinite Soluble Groups
	PhD	Stat	Hong Ooi	Recursive Partitioning for Density Estimation and Mode-Hunting
	PhD	Pure	Sergey Ajiev	Singular and Supersingular Operators on Function Spaces, Approximation and Extrapolation
	PhD	Stat	Yvonne Pittelkow	Analysis of High-Density Oligonucleotide Microarray Data: A Statistical Perspective
CQU	PhD	Appl	Patrick Keleher	Adaptive and Sliding Mode Control of Articulated Robot Arms using the Liapunov method Incorporating Constraint Inequalities
	PhD	Stat	Sue Lindsay	Estimation for Components of Variance Models
MDU	PhD	Stat	Alexandra Bremner	Localised splitting criteria for classification and regression trees
MNU	MSc	Stat	Julie Sims	Modelling overdispersed Poisson data
	PhD	Pure	J Buckland	Mean curvature flow with free boundary on smooth hypersurfaces
	PhD	Appl	A Karakas	Asymptotic giant branch stars: their influence on binary stars and the interstellar medium
	PhD	Appl	E Stark	Gravito-electromagnetism and the question of stability in numerical general relativity
QUT	MSc	Stat	Sorn Norng	Statistical Decisions in Optimising Grain Yield
	MSc	Appl	Andrew Durick	Analysis and Improvement of the Nonlinear Iterative Techniques for Groundwater Flow Modelling Utilising MODFLOW
	PhD	Appl	Daniel Mallet	Mathematical Modelling of the Role of Haptotaxis in Tumour Growth and Invasion
	PhD	Appl	Simon Truscott	A Heterogeneous Three-Dimensional Computational Model for Wood Drying
	PhD	Stat	Simon Sando	Estimation of a Class of Nonlinear Time Series Models
UMB	MSc	Pure	Terence Jegaraj	Polynomial birth-death approximation of pattern occurrences in an independent, identically distributed sequence
	MSc	Stat	Marta Salek	Existence of a Bishop family oa annuli
	PhD	Pure	Cheuk Chui	Integrable boundary conditions of lattice models in more general topologies
	PhD	Appl	Bruce Davey	Algorithmic applications of knapsack covers and duality to integer programming
	PhD	Appl	Andrew Rogers	Parallel algorithms for lattice enumeration problems
	PhD	Stat	Stanislaus Uyanto	Regression with symmetric alpha-stable distributions
UNS	MSc	Appl	Glen Grice	Constant speed flows and the nonlinear Schrodinger equation
	MSc	Pure	Oldrich Klima	Analysis of a subelliptic operator on the sphere in complex N-space
	PhD	Appl	Peng Xu	A computational model for the assessment and prediction of salinisation in irrigated areas
	PhD	Pure	Bill Cruickshank	Vershik systems and non-singular ergodic theory
	PhD	Appl	Josef Dick	Digital lattice rules: multivariate integration and discrepancy estimates
	PhD	Appl	Kassim Mustapha	Analysis of fully discrete element methods with quadrature for second order nonlinear parabolic and hyperbolic problems
	PhD	Pure	Keith Rogers	Real and p-adic oscillatory integrals
	PhD	Appl	Ann-Marie Wong	Deep convection processes off the coast of Adelie Land, East Antarctica
	PhD	Appl	Haixiong Zhuang	Parameterizations of atmosphere-ocean and atmosphere land surface interactions, with an application to the Australian Monsoon
	PhD	Appl	Eunjoo Jung	Numerical simulation of Asian Dust Events: The effects of Convective Transport and Wet Deposition
USN	MSc	Pure	Stephen Meagher	Cusps of Hilbert modular surfaces and 4-folds
	MSc	Stat	Ponnuthurai Ainkaran	Analysis of some linear and nonlinear time series models
	MSc	Appl	Henrik Latter	Topics in Kinematic Dynamo Theory
	PhD	Pure	Noelle Antony	On Singular Artin Monoids
	PhD	Appl	William Bertram	Modelling asset dynamics via an empirical investigation of Australian stock data
	PhD	Pure	Beatrice Bleile	Poincare Duality Pairs of Dimension Three
	PhD	Appl	Otto Konstandatos	A new framework for pricing barrier and lookback options
	PhD	Appl	Greg Woodbury	Modelling emergent properties of the visual cortex
	PhD	Pure	Ruxue Xu	Fixed point calculations on cones
	PhD	Pure	Yunchuan Yin	W-graph representations for Coxeter groups and Hecke algebras
UWA	MSc	Pure	Sanka Balasuriya	Maximal Monotone Operators in Banach Spaces
	PhD	Stat	Tarn Duong	Bandwidth Selectors for Multivariate Kernel Density Estimation
	PhD	Appl	Ronald Monson	The Computer-Aided Verification of Mathematical Reasoning in Education and the Counting of Satisfiable Instances of k-SAT
	PhD	Stat	Sandra Pereira	Analysis of Spatial Point Patterns using Hierarchical Clustering Algorithms

Table 3: Higher Degrees in Mathematics and Statistics, 2004

	PhD	Appl	Ricky O'BRIEN	Modelling the transport and reaction of enzymes in germinating barley
	PhD	Pure	Tian LIM	Edge-transitive homogeneous factorisations of complete graphs
	PhD	Appl	Tomomichi Nakamura	Modelling nonlinear time series using selection methods and information criteria
	PhD	Stat	Jahar Choudhury	Completing Risks Models for the Analysis of Multivariate Failure-Time Data: Applications to Biomedicine and Criminology
UWG	MSc	Pure	Amos Koeller	Ergodic transformations that generate the Caratheodory definition of measurable sets
	PhD	Appl	Bronwyn Bradshaw-Hajek	Reaction-diffusion equations for population genetics
	PhD	Appl	Raseelo Joel Moitsheki	Invariant solutions for transient solute transport in saturated and unsaturated soils

References

[1] P. Petocz, *Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia 1993*, AustMS Gazette **23** (1996), 123–133.

[2] P. Johnston and P. Petocz, *Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia in 1994 and 1995*, AustMS Gazette **29** (2002), 62–72.

[3] P. Johnston, *Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia between 1996 and 2001*, AustMS Gazette **30** (2003), 42–44.

[4] P. Johnston, *Higher degrees and honours bachelor degrees 2002*, AustMS Gazette **30** (2003), 315–320.

[5] P. Johnston, *Higher degrees and honours bachelor degrees in mathematics and statistics completed in Australia in 2003*, AustMS Gazette **31** (2004), 314–319.

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Uni.	Sex	Mathematics				Pure				Applied				Statistics				Other				Honours
		I	IIA	IIB	III	I	IIA	IIB	III	I	IIA	IIB	III	I	IIA	IIB	III	I	IIA	IIB	III	Total
ACU																						0
																						0
ANU	M					4				1				1		1						7
	F					2																2
BOU																						0
																						0
CDU	M																					0
	F																					0
CQU	M																					0
	F																					0
CSU																						0
																						0
CUT																						0
																						0
DKU	M																					0
	F																					0
ECU	M																					0
	F																					0
FDU	M																					0
	F																					0
GFU	M										1											1
	F									1												1
JCU																						0
																						0
LTU	M													1		1						2
	F																					0
MDU	M														1							1
	F										1											1
MNU	M	3								2	1			1								7
	F	1								2												3
MQU	M																					0
	F																					0
QUT	M									3												3
	F									1				1								2
RMT	M									3		1										4
	F					1					1											2
SCU																						0
																						0
SUT	M																					0
	F																					0
UAD	M					2		2		1				1				1	1			8
	F										1	1		2	1							5
UBR	M													1								1
	F					1																1
UCB																						0
																						0
UMB	M					6	1			4	1	1	1	5	1		1					21
	F					1				2	1			4	1							9
UNC	M	2													1							3
	F																					0
UNE																						0
																						0
UNS	M					5	1				1			1								8
	F														1							1
UQL																						0
																						0
USA	M																					0
	F									2	1											3
USN	M					6				2	2	1		2								13
	F					1				1				1								3
USQ	M														1							1
	F																					0
UTM																						0
																						0
UTS	M	1																	1	2		4
	F		1																			1
UWA	M					2				1	1	1		1	1							7
	F																					0
UWG	M	1				1												5				7
	F		1							1				1				3				6
UWS																						0
																						0
VUT																						0
																						0
Totals		8	2	0	0	32	2	2	0	27	12	5	1	23	8	2	1	9	2	2	0	138

Table 1. Number of Honours degrees completed in Mathematics and Statistics, 2004

University	Sex	Coursework Masters	Research Masters			Total	PhD			Total
			Pure	Applied	Statistics		Pure	Applied	Statistics	
ACU						0				0
						0				0
ANU	M					0	2		1	3
	F					0		1	1	2
BOU						0				0
						0				0
CDU	M					0				0
	F					0				0
CQU	M					0		1		1
	F					0			1	1
CSU						0				0
						0				0
CUT						0				0
						0				0
DKU	M					0				0
	F				1	1			1	1
ECU	M			1		1				0
	F					0				0
FDU	M					0				0
	F					0		1		1
GFU	M					0				0
	F					0				0
JCU						0				0
						0				0
LTU	M					0				0
	F					0				0
MDU	M					0				0
	F					0			1	1
MNU	M					0	1			1
	F				1	1		2		2
MQU	M					0	2			2
	F					0				0
QUT	M	4		1	1	2		2	1	3
	F					0				0
RMT	M					0				0
	F					0				0
SCU						0				0
						0				0
SUT	M					0				0
	F					0				0
UAD	M	5	2	0	0	2	1	1	0	2
	F	1				0		2		2
UBR	M					0		1		1
	F					0		1		1
UCB						0				0
						0				0
UMB	M				1	1	1	2	1	4
	F		1			1				0
UNC	M					0	1			1
	F					0				0
UNE						0				0
						0				0
UNS	M	7	1	1		2	1	4		5
	F	3				0		2		2
UQL						0				0
						0				0
USA	M					0				0
	F					0				0
USN	M		1	1	1	3	2	3		5
	F					0	2			2
USQ	M					0			1	1
	F					0				0
UTM						0				0
						0				0
UTS	M					0				0
	F					0				0
UWA	M		1			1	1	3	2	6
	F					0			1	1
UWG	M	1	1			1		1		1
	F	2				0		1		1
UWS						0				0
						0				0
VUT						0				0
						0				0
Totals		23	7	4	5	16	13	27	10	53

Table 2. Number of research higher degrees completed in Mathematics and Statistics, 2004