



# AMSI Survey 2013

## Mathematical sciences at Australian universities

## INTRODUCTION

In August 2013, the AMSI member universities were sent a questionnaire about their staffing situation, teaching, research and student numbers in 2013. This was the second survey of its kind, with a few notable differences from the first survey.

In the previous survey, held in 2012, 27 departments from 25 AMSI member universities participated. In the 2013 survey, an additional, reduced questionnaire (with questions about staffing and student enrolment) was sent to non-member universities, increasing the number of participants to 33 departments from 32 universities.

In 2013, the questionnaire included questions on research data which had not been included in the previous survey. While these questions were sent to the AMSI member universities only, they have yielded interesting information on research activity in Australia.

Thirdly, the way the final survey results are presented in this document is slightly different from the 2012 survey and the preliminary results in the Discipline Profile. The information is now presented (as much as possible) grouped by all existing alignments: Group of Eight (Go8), Australian Technology Network (ATN), Regional Universities Network (RUN), Innovative Research Universities (IRU) and 'unaligned' universities. We hope that this gives a more nuanced picture of the differences and similarities between various groups of universities.

As the 2012 survey collected data from 2 years (2011 and 2012), a picture is now starting to emerge for the period 2011 to 2013. Even though the data are not complete for all mathematical sciences departments in the country, we are starting to gain a more comprehensive view of the state of mathematics and statistics in universities in Australia, even though it is still too early to draw firm conclusions on trends. AMSI aims to keep building on its data collection in order to gain a longitudinal view of trends and developments.

In order to allow a more comprehensive view on student numbers, this document also contains up-to-date honours and PhD completions by gender from 1980 onwards from the AustMS data collection performed by Peter Johnston. These can be found in Appendix 1. Peter Johnston's full report of honours and higher degree completions for 2013 has been offered for publication to the AustMS Gazette later this year.

A list of participating universities is contained at the back of this document in Appendix 2. AMSI wishes to thank all participants for their generous cooperation.



Geoff Prince

AMSI Director

Editor: Maaïke Wienk

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*Please note that rounding may have produced totals greater than 100%*

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## SUMMARY OF FINDINGS

Even though it is too early to draw conclusions on where mathematics and statistics in universities are headed, with caution it is possible to point out some interesting facts and possible trends:

- The number of academic staff in the mathematical sciences at universities is possibly on the rise again after being hard hit in the last two decades. The total number of staff in the 21 departments for which we have data from 2011 to 2013 has risen by nearly 50 FTE in that period. This increase is confirmed if we look at confirmed and estimated staff numbers at all 33 universities for the same period, but the picture is uneven: most of the estimated growth has taken place at the Go8 and ATN universities.
- In Group of Eight universities the proportion of staff on fixed-term and continuing positions is nearly even. In the other university groupings the proportion of staff in continuing positions is much higher than fixed-term staff. This is, of course, a consequence of the higher number of research-only staff employed on fixed-term research grants at Group of Eight universities.
- The academic workforce is predominantly male, and the proportion of females reduces with the level of seniority - with the exception of level C. In 2013, about 30% of reported casuals were female which decreased to 24% at level A, 19% at level B, and only rose at level C with 27%. This drops significantly to 13% at level D and 10% at level E. It is important to remember that these data only provide a snapshot; longitudinal data collection is required to adequately assess developments of the female proportion of mathematical staff as careers progress.
- If the proportion of level E staff in a department is higher than the proportion of staff at level D or even C then the profile is top-heavy. By this measure, Go8 and IRU universities are seriously top-heavy with

level E staff more numerous than level C and D. In ATN and unaligned universities, level E staff outnumber level D but not level C.

- Casual staff perform the majority of tutorial teaching. There has been a slight increase in these numbers from 2012 (64%) to 2013 (69%). The proportion of lecture teaching by casuals stayed the same - 9% in 2012 and in 2013.
- Due to a number of smaller, non-member universities participating in the 2013 survey, we have gained a better view of what majors are on offer in the mathematical and statistical sciences. The most prevalent major was in Applied Mathematics, which was offered by 58% of all surveyed universities. Second most prevalent is a combined major stream in Mathematics and Statistics (45%), followed by a major in Statistics (35%). Of the 33 departments providing data for this survey, 6 departments – mostly the small departments in non-AMSI member universities - reported not offering a major at all in the mathematical and statistical sciences.
- The participation of non-member universities in the survey also improved our understanding of what the most important areas of service teaching are. Engineering and Computer Science remain the top areas of service teaching, but third place has been shifting between Biological Sciences and Physical Sciences – with Physical Sciences now definitely the third area in terms of importance, with Biological Sciences and Environmental Sciences in 4<sup>th</sup> and 5<sup>th</sup> place.
- For some departments reliable data on undergraduate student numbers are hard to obtain, and in general these data can be quite volatile from year to year. With this in mind, it seems that average enrolment data overall seem to be quite constant. There certainly appears to have been no decline in numbers of undergraduate students in the 2011-2013 period, but this is one area where yearly data collection is vital to better understanding of what is happening over the longer term.
- In general departments have most accurate figures for higher degree enrolments. These have also remained fairly constant over the 3 year

period. The Honours and Masters by Coursework data indicate perhaps a slight increase (certainly the Masters by Coursework degrees offered by Melbourne university and RMIT have shown to be in demand).

- The undergraduate and higher degree student profiles for 2013 by domestic/international status and gender are quite interesting. Among undergraduate students, about 30% overall was female – but this proportion was significantly lower at the ATN universities (22%). The undergraduate population at RUN/IRU and unaligned universities showed the biggest mix, with the highest proportion of domestic female students and a relatively high proportion of international students. However, since quite a few departments were not able to obtain gender and domestic/international break downs for their undergraduate population, caution is warranted.
- The profile break downs for higher degree student populations have been much easier to obtain. In contrast to the undergraduate population, ATN universities had the highest proportion of female honours students (30%) and Masters by Coursework students (42%) in 2013. In Masters by Coursework and PhD student populations the proportion of female students was 35% overall – with a very significant portion of these female students coming from overseas. This confirms anecdotal reports.
- The higher degree completion numbers by field of study in 2013 highlight the vast differences in emphasis on Pure Mathematics, Applied Mathematics and Statistics in the different university groups. ATN universities focus solely on Statistics and Applied Mathematics higher degrees. At Go8 and RUN/IRU/unaligned universities around a third of Honours and Masters by Coursework degrees are in Pure Mathematics (including Mathematical Physics). Go8 universities are the main suppliers of PhD degrees in Pure Mathematics.
- The research data show that research funding and activity is very much skewed towards Group of Eight universities; they are by far the most successful at securing ARC funding, the most significant recipients of

Commonwealth research funding in general, and as a consequence the most important employers of ARC funded research staff – mostly at levels A and B. Interestingly, ATN and unaligned universities seem to be prepared to employ their entry-level fixed-term research staff at level B – perhaps to make a research career at these universities more attractive.

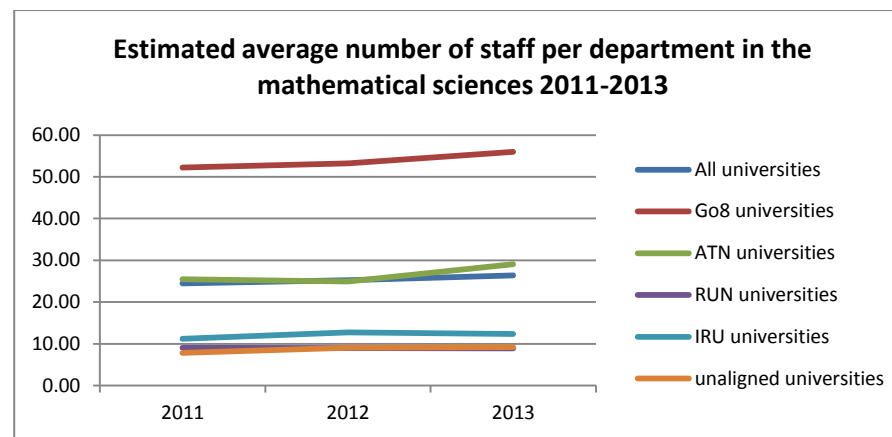
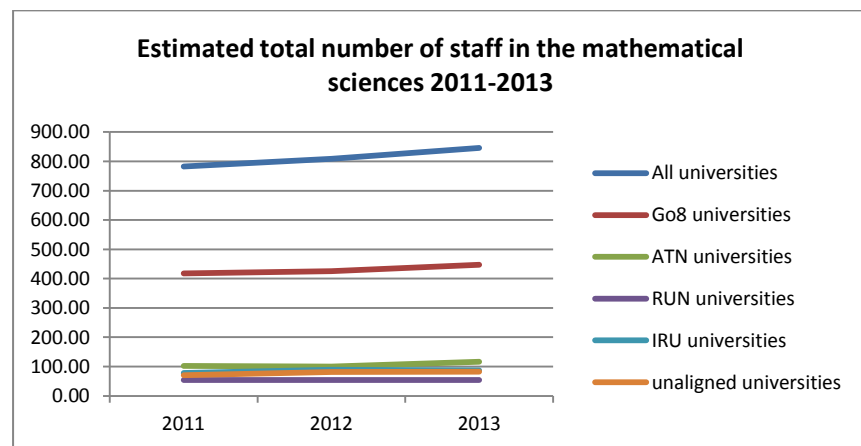
- Compared to 2012, the number of students reported in 2013 as being Aboriginal and/or Torres Strait islander is many times larger. It is not clear whether this is due to reporting by the students or by the departments participating in the survey, or both. The individual replies by universities on their gender, socio-economic and indigenous policies have been supplied on an identifiable basis, as this information is normally publicly available and supplied for the benefit of the AMSI community.

## STAFFING IN 2013

Number of academic staff reported at universities who participated in both the 2012 and the 2013 AMSI survey (in FTE)\*

Total staff in all universities which participated in both surveys	Teaching only	Research only	Teaching and Research	All Staff
<b>2011</b>	19	182	419	621
<b>2012</b>	23	217	411	651
<b>2013</b>	45	210	415	670

\* The 2012 AMSI Member Survey covered both 2011 and 2012. Of the 21 departments participating in both surveys, 11 increased their staff numbers between 2012 and 2013, 3 remained constant and 7 lost staff. Based on this comparison, it looks like the overall number of academic staff in the mathematical sciences might be on the rise again. The charts below are based on data from 33 universities (partly estimated) from the past 3 years and confirm that staff numbers might have risen, but unevenly: staff numbers at Go8 and ATN universities have risen in the past 3 years, but not so much in other universities.

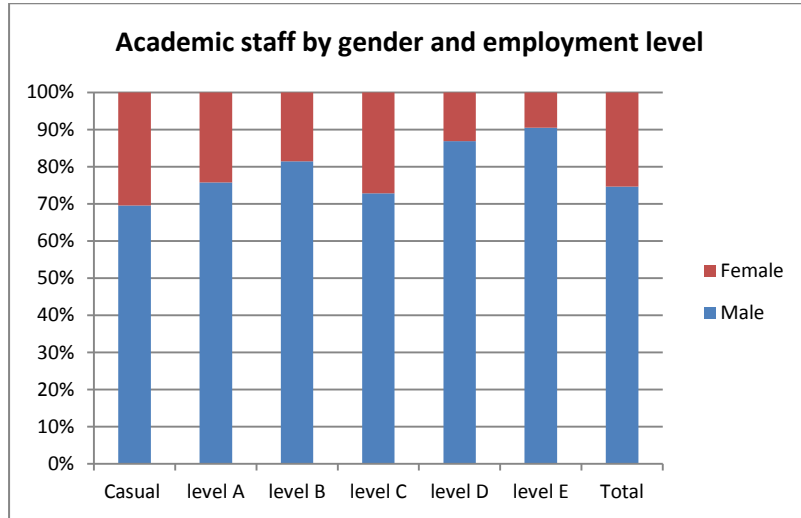


Estimated total number of staff in the mathematical sciences 2011-2013 (in FTE)

Estimated average number of staff per department in the mathematical sciences 2011-2013 (in FTE)

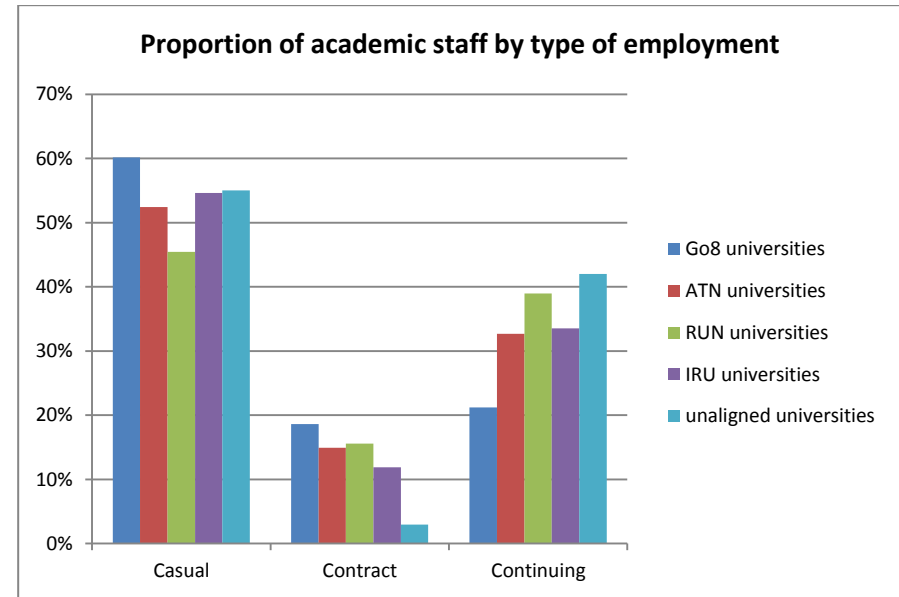
	2011	2012	2013		2011	2012	2013
All universities	783	809	845	All universities	24	25	26
Go8 universities	418	426	448	Go8 universities	52	53	56
ATN universities	102	100	116	ATN universities	25	25	29
RUN universities	55	54	54	RUN universities	9	9	9
IRU universities	79	89	87	IRU universities	11	13	12
unaligned universities	71	82	83	unaligned universities	8	9	9

## STAFF PROFILE IN 2013



**Academic staff by gender and employment level in 2013 (not FTE) - all universities**

	Male	Female	Female %
Casual	739	324	30%
level A	119	38	24%
level B	211	48	19%
level C	126	47	27%
level D	99	15	13%
level E	133	14	10%
Total	1427	486	25%

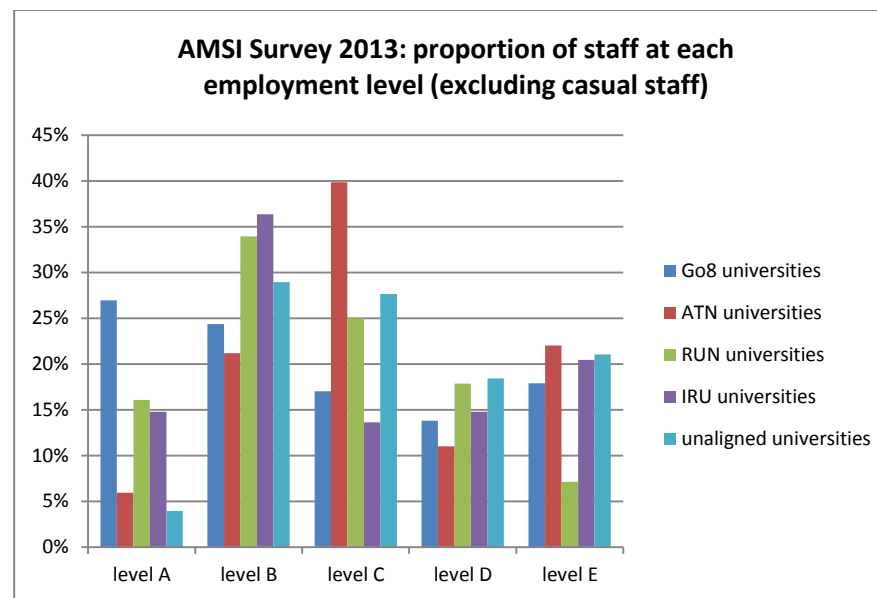
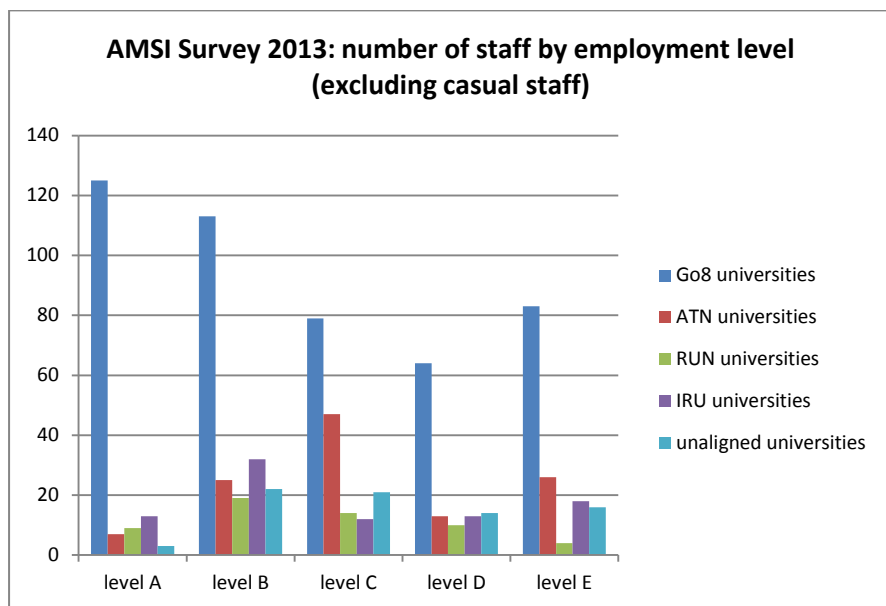


**Proportion of academic staff by type employment in 2013 (not FTE)**

	Casual	Contract	Continuing
Go8 universities	60%	19%	21%
ATN universities	52%	15%	33%
RUN universities	45%	16%	39%
IRU universities	55%	12%	34%
unaligned universities	55%	3%	42%

**Number of academic staff by employment level in 2013 (not FTE)**

	level A	level B	level C	level D	level E
Go8 universities	125	113	79	64	83
ATN universities	7	25	47	13	26
RUN universities	9	19	14	10	4
IRU universities	13	32	12	13	18
unaligned universities	3	22	21	14	16



**Proportion of academic staff at each employment level in 2013 (not FTE)**

	level A	level B	level C	level D	level E
Go8 universities	27%	24%	17%	14%	18%
ATN universities	6%	21%	40%	11%	22%
RUN universities	16%	34%	25%	18%	7%
IRU universities	15%	36%	14%	15%	20%
unaligned universities	4%	29%	28%	18%	21%

# TEACHING IN 2013

## Teaching by academic and casual staff in 2013

	tutorial hours all staff	tutorial hours casual staff	% of total taught by casuals
Average Go8 universities	257	169	66%
Average ATN universities	70	57	81%
Average RUN universities	55	24	44%
Average IRU universities	127	97	76%
Average unaligned universities	90	68	75%
Average all universities	142	97	69%

	lecture hours all staff	lecture hours casual staff	% of total taught by casuals
Average Go8 universities	113	4	4%
Average ATN universities	92	13	14%
Average RUN universities	27	1	5%
Average IRU universities	55	5	10%
Average unaligned universities	52	12	23%
Average all universities	76	7	9%

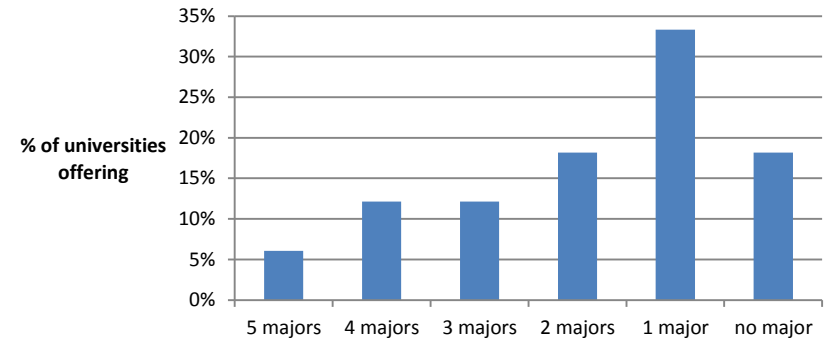
### Number of majors offered in 2013

% of universities offering:	
5 majors	6%
4 majors	12%
3 majors	12%
2 majors	18%
1 major	33%
no major	18%

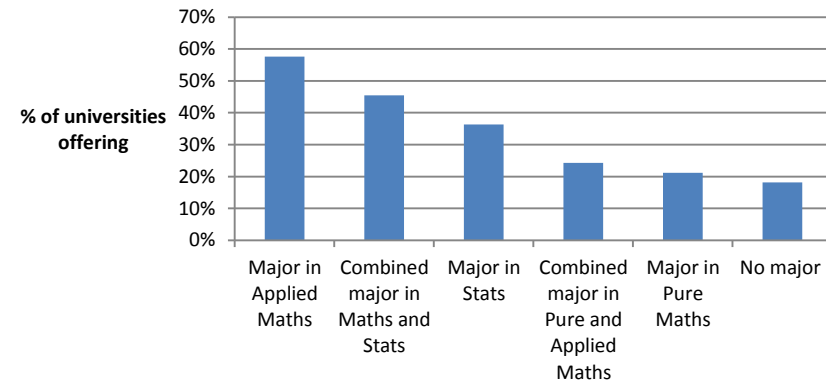
### Majors offered in the mathematical and statistical sciences in 2013

% of universities offering:	
Major in Applied Maths	58%
Combined major in Maths and Stats	45%
Major in Stats	36%
Combined major in Pure and Applied Maths	24%
Major in Pure Maths	21%
No major	18%

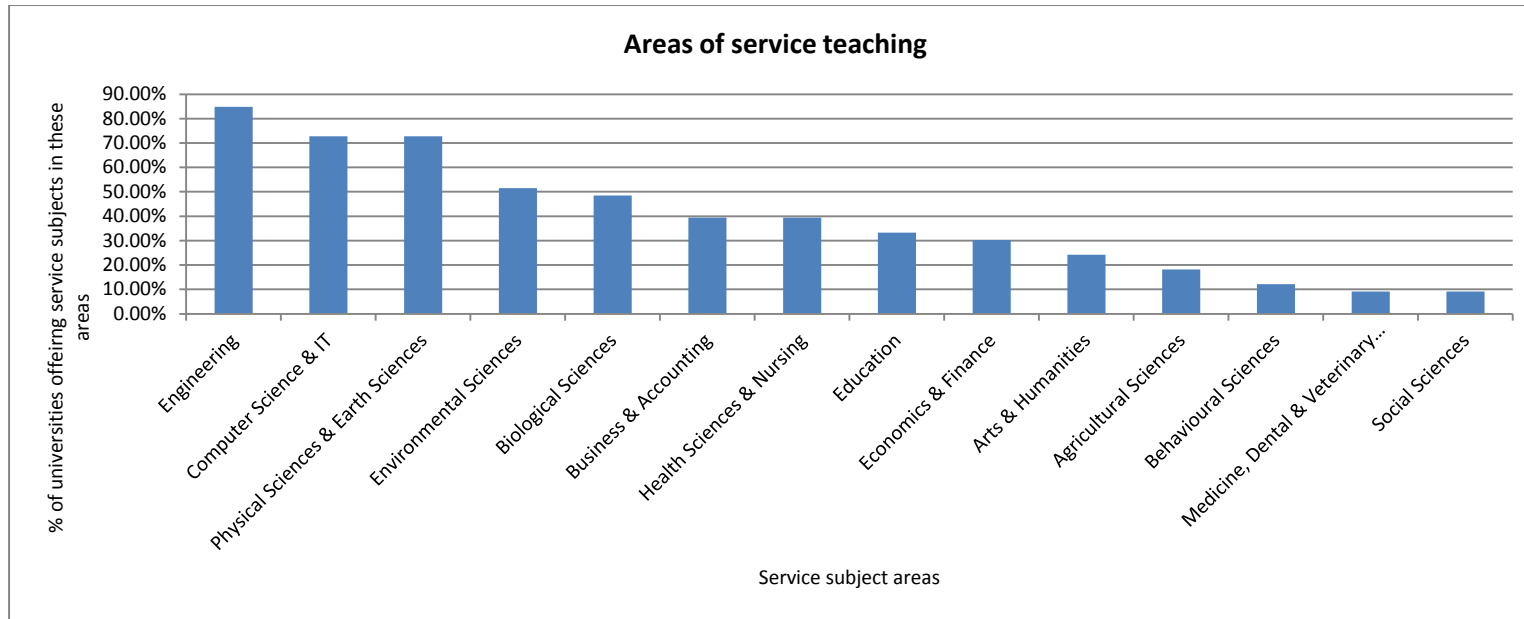
## Number of majors offered in the mathematical and statistical sciences



## Majors offered in the mathematical and statistical sciences







**Proportion of universities offering service subjects in the areas below**

Engineering	85%
Computer Science & IT	73%
Physical Sciences & Earth Sciences	73%
Environmental Sciences	52%
Biological Sciences	48%
Business & Accounting	39%
Health Sciences & Nursing	39%
Education	33%
Economics & Finance	30%
Arts & Humanities	24%
Agricultural Sciences	18%
Behavioural Sciences	12%
Medicine, Dental & Veterinary Sciences	9%
Social Sciences	9%

## STUDENT ENROLMENTS AND STUDENT LOAD IN 2013

### UNDERGRADUATE ENROLMENTS

#### Reported undergraduate enrolments in 2013 (in EFTSL)

	3rd year	2nd year	1st year
Total Go8 universities	631	1828	4156
Total ATN universities	166	270	1028
Total RUN universities	29	90	170
Total IRE universities	78	274	1062
Total unaligned universities	49	305	445
<b>Total all universities</b>	<b>952</b>	<b>2766</b>	<b>6861</b>

#### Total undergraduate load in EFTSL per EFT teaching staff (excluding casuals) 2011-2013

	2011	2012	2013
Average Go8 universities	25	27	27
Average ATN universities	21	23	22
Average RUN/IRU/unaligned universities	29	28	25
<b>Average all universities</b>	<b>27</b>	<b>27</b>	<b>26</b>

Due to the smaller number of respondents to the questions on undergraduate student numbers in prior AMSI surveys a breakdown by national alignment for the years 2011 and 2012 was not possible, as most alignments were not adequately represented.

#### Average number of undergraduate enrolments per university 2011-2013 (in EFTSL)

	2011	2012	2013
<b>1st year</b>			
Average Go8 universities	573	562	594
Average ATN universities			257
Average RUN universities	166	165	85
Average IRU universities			265
Average unaligned universities			223
<b>Average all universities</b>	<b>308</b>	<b>303</b>	<b>361</b>
<b>2nd year</b>			
Average Go8 universities	246	265	261
Average ATN universities			67
Average RUN universities	62	84	45
Average IRU universities			68
Average unaligned universities			152
<b>Average all universities</b>	<b>126</b>	<b>147</b>	<b>146</b>
<b>3rd year</b>			
Average Go8 universities	83	89	90
Average ATN universities			42
Average RUN universities	29	31	14
Average IRU universities			19
Average unaligned universities			24
<b>Average all universities</b>	<b>48</b>	<b>51</b>	<b>50</b>

## HONOURS AND HIGHER DEGREE ENROLMENTS

### Reported Honours and Higher Degree enrolments in 2013 (in EFTSL)

	PhD	Masters by Coursework	Masters by Research	Honours
total Go8 universities	258	112	29	92
total ATN universities	97	214	7	21
total RUN universities	17	6	0	15
total IRU universities	56	4	6	19
total unaligned universities	61	31	7	18
<b>total all universities</b>	<b>490</b>	<b>367</b>	<b>50</b>	<b>165</b>

Please note that the Masters degrees offered by the University of Melbourne and RMIT (both listed under masters by Coursework) have attracted large interest in the past few years.

Please note that in the 2011-2012 AMSI Survey 27 departments from 25 universities participated; in 2013, 33 departments from 32 universities participated, with the increased participation mostly coming from unaligned universities and universities aligned with RUN and IRU, so the 2013 figures for these alignments are more reliable than for the previous years.

### Average Honours and Higher Degree enrolment numbers per university 2011-2013

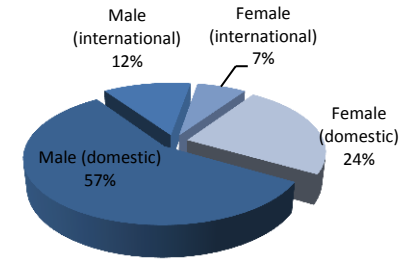
	2011	2012	2013
<b>Honours</b>			
average Go8 universities	15	14	13
average ATN universities	5	5	5
average RUN universities	<1	<1	5
average IRU universities	5	6	3
average unaligned universities	2	4	3
average all universities	7	7	7
<b>Masters by Coursework</b>			
average Go8 universities	17	17	16
average ATN universities	25	32	53
average RUN universities	1	<1	2
average IRU universities	2	3	1
average unaligned universities	8	7	4
average all universities	12	12	17
<b>Masters by Research</b>			
average Go8 universities	5	4	4
average ATN universities	2	2	2
average RUN universities	0	<1	0
average IRU universities	2	2	1
average unaligned universities	1	1	1
average all universities	2	2	2
<b>PhD</b>			
average Go8 universities	36	38	37
average ATN universities	26	29	24
average RUN universities	9	7	6
average IRU universities	7	11	10
average unaligned universities	18	16	9
average all universities	21	23	22

# STUDENT PROFILES IN 2013

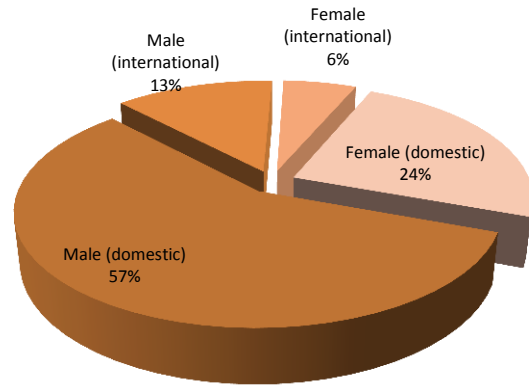
## Undergraduate student profile by gender and domestic/international status

	Male (domestic)	Male (international)	Female (international)	Female (domestic)
Go8 universities	57%	12%	7%	24%
ATN universities	65%	13%	3%	19%
RUN/IRU/unaligned universities	52%	15%	4%	29%
All universities	57%	13%	6%	24%

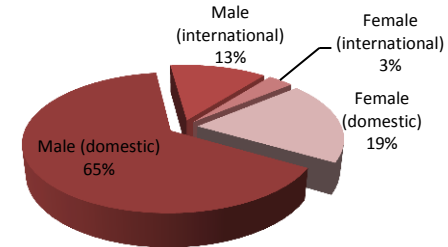
Undergraduate student profile at Go8 universities by gender and domestic/international status



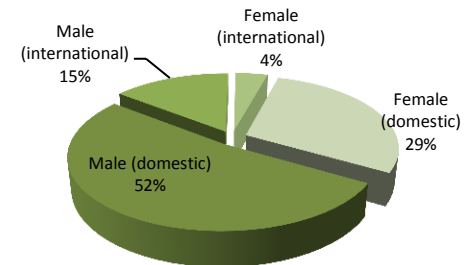
Undergraduate student profile by gender and domestic/international status (all universities)



Undergraduate student profile at ATN universities by gender and domestic/international status



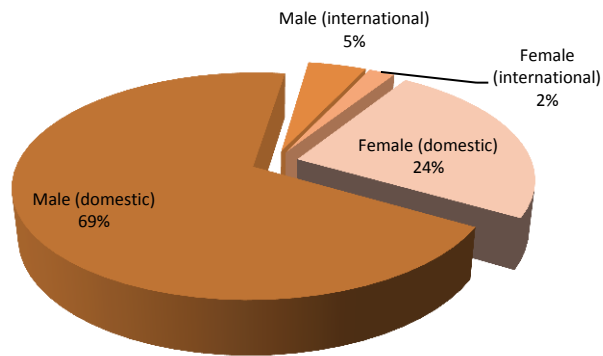
Undergraduate student profile at RUN/IRU/unaligned universities by gender and domestic/international status



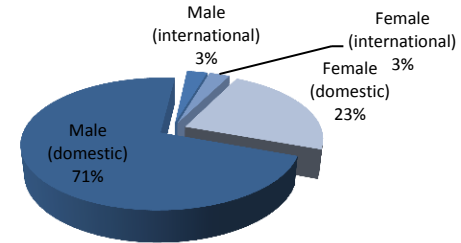
**Honours student profile by gender and domestic/international status**

	Male (domestic)	Male (international)	Female (international)	Female (domestic)
Go8 universities	71%	3%	3%	23%
ATN universities	68%	3%	3%	28%
RUN/IRU/unaligned universities	65%	11%	0%	24%
All universities	69%	5%	2%	24%

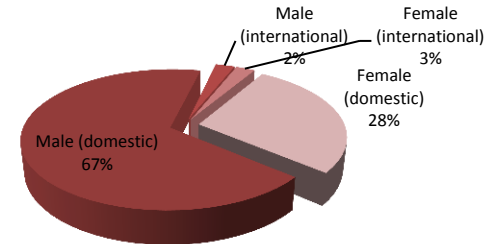
**Honours student profile by gender and domestic/international status (all universities)**



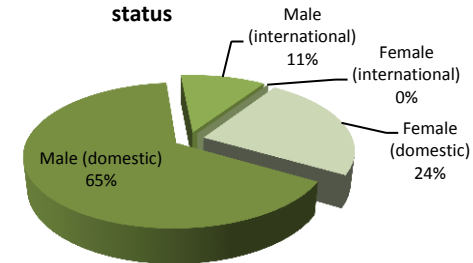
**Honours student profile at Go8 universities by gender and domestic/international status**



**Honours student profile at ATN universities by gender and domestic/international status**



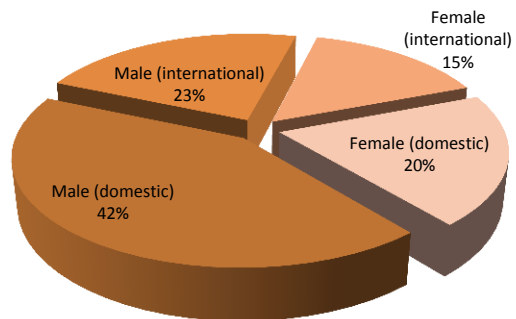
**Honours student profile at RUN/IRU/unaligned universities by gender and domestic/international status**



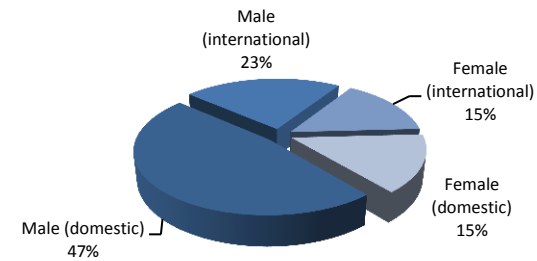
**Masters by Coursework student profile by gender and domestic/international status**

	Male (domestic)	Male (international)	Female (international)	Female (domestic)
Go8 universities	47%	23%	15%	15%
ATN universities	38%	20%	15%	28%
RUN/IRU/unaligned universities	36%	32%	19%	14%
All universities	43%	23%	15%	18%

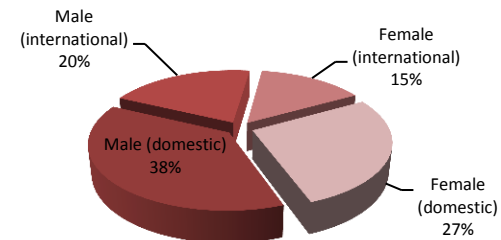
**Masters by Coursework student profile by gender and domestic/international status (all universities)**



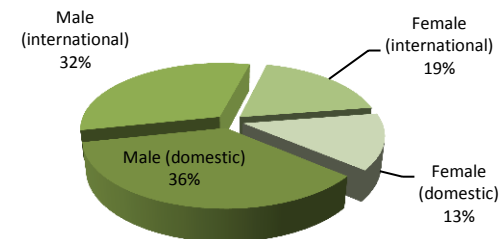
**Masters by Coursework student profile at Go8 universities by gender and domestic/international status**



**Masters by Coursework student profile at ATN universities by gender and domestic/international status**



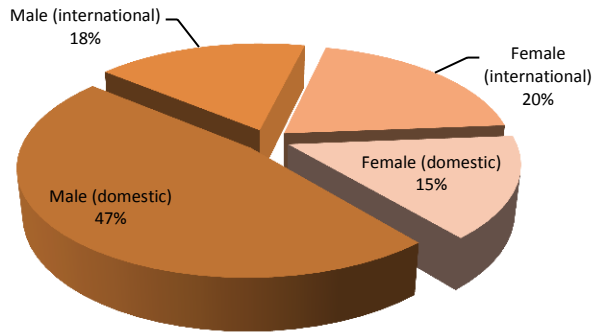
**Masters by Coursework student profile at RUN/IRU/unaligned universities by gender and domestic/international status**



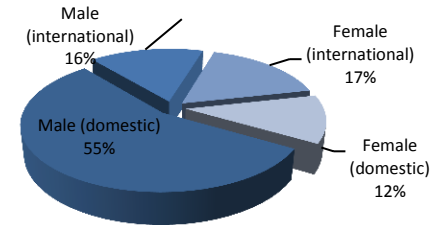
**PhD student profile by gender and domestic/international status**

	<b>Male (domestic)</b>	<b>Male (international)</b>	<b>Female (international)</b>	<b>Female (domestic)</b>
Go8 universities	56%	16%	17%	12%
ATN universities	38%	29%	18%	15%
RUN/IRU/unaligned universities	32%	15%	29%	24%
All universities	47%	18%	20%	15%

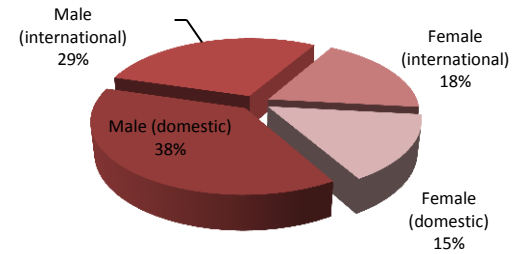
**PhD student profile by gender and domestic/international status (all universities)**



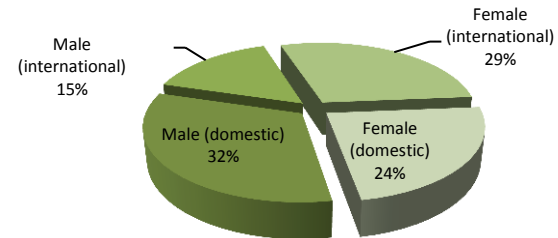
**PhD student profile at Go8 universities by gender and domestic/international status**



**PhD student profile at ATN universities by gender and domestic/international status**



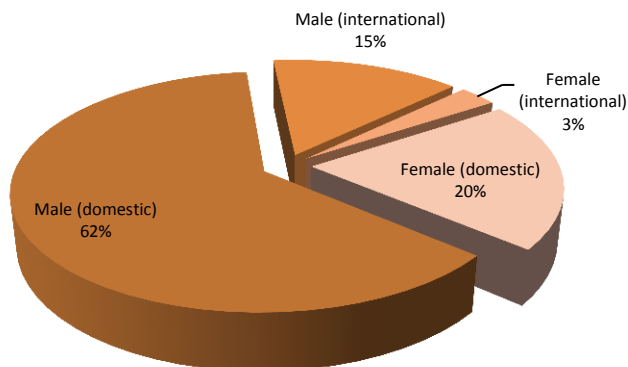
**PhD student profile at RUN/IRU/unaligned universities by gender and domestic/international status**



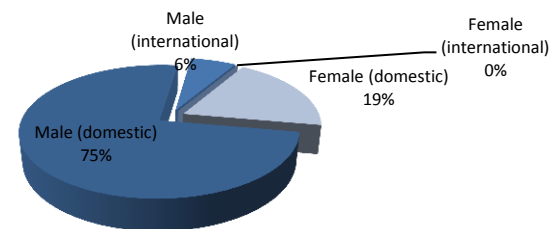
**Masters by research student profile by gender and domestic/international status**

	Male (domestic)	Male (international)	Female (international)	Female (domestic)
Go8 universities	74%	6%	0%	19%
ATN universities	33%	33%	11%	22%
RUN/IRU/unaligned universities	38%	31%	8%	23%
All universities	62%	14%	3%	20%

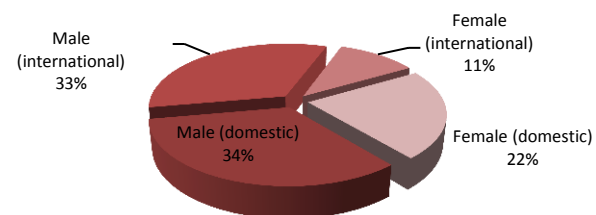
**Masters by research student profile by gender and domestic/international status (all universities)**



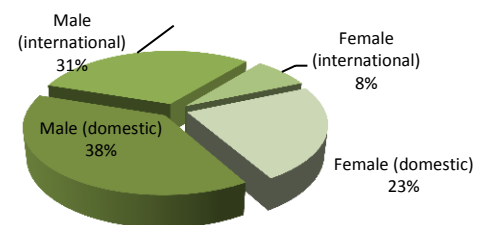
**Masters by Research student profile at Go8 universities by gender and domestic/international status**



**Masters by Research student profile at ATN universities by gender and domestic/international status**



**Masters by Research student profile at RUN/IRU/unaligned universities by gender and domestic/international status**





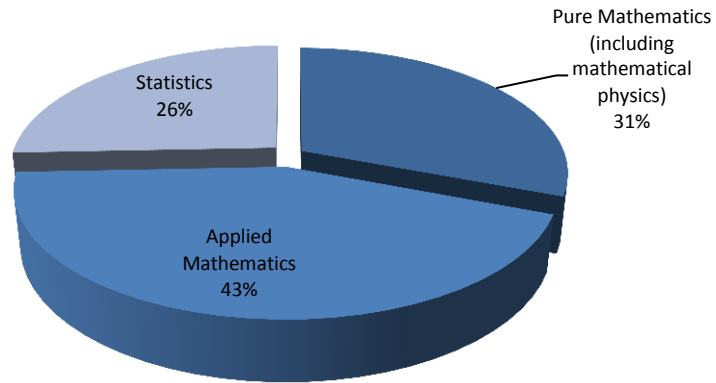
## HIGHER DEGREE COMMENCEMENTS AND COMPLETIONS IN 2013

### PhD and Masters by research commencements and completions in 2012 and 2013

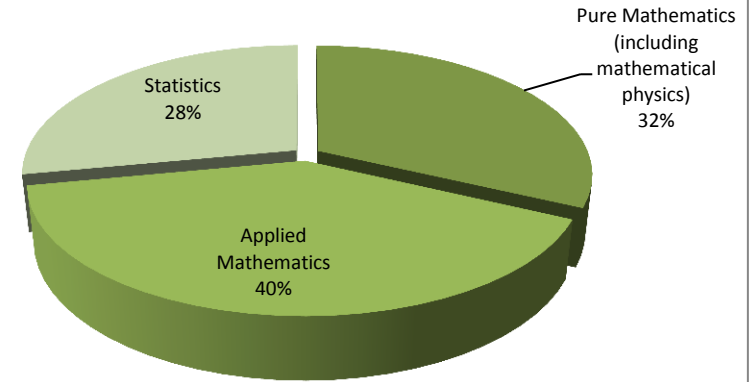
	PhD commencements		PhD completions	
	2012	2013*	2012	2013*
total go8 universities	88	78	43	55
total ATN universities	40	37	14	29
total RUN universities	1	5	4	2
total IRU universities	15	12	7	13
total unaligned universities	9	12	9	6
total all universities	153	144	77	105
	Masters by research commencements		Masters by research completions	
	2012	2013*	2012	2013*
total go8 universities	17	16	13	10
total ATN universities	6	5	1	1
total RUN universities	0	0	0	0
total IRU universities	2	0	2	3
total unaligned universities	1	4	0	1
total all universities	26	25	16	15

\*These are projected figures for 2013. The 2014 AMSI Survey will ask for final numbers for 2013.

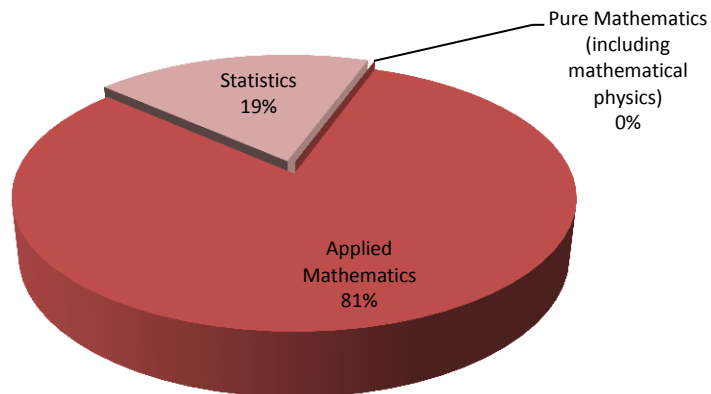
**Honours completions at Go8 universities by field of study**



**Honours completions at RUN/IRU/unaligned universities by field of study**



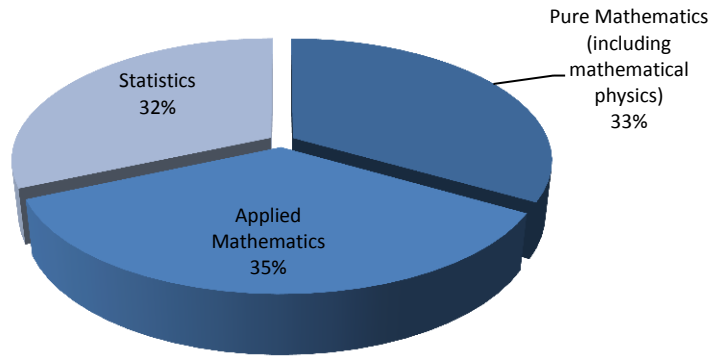
**Honours completions at ATN universities by field of study**



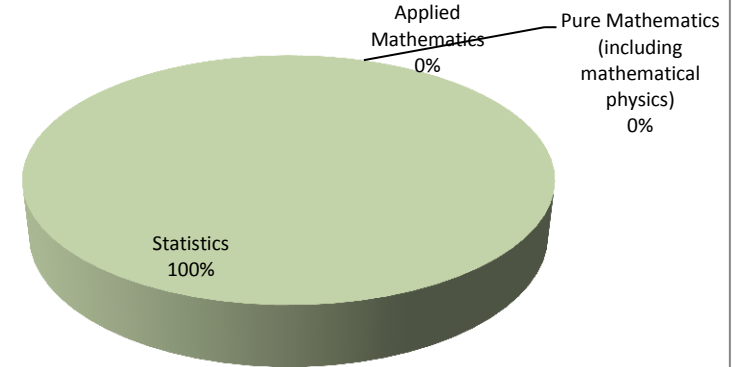
**Honours completions in 2013 by field of study**

	Pure Mathematics (including mathematical physics)	Applied Mathematics	Statistics
Go8 universities	24	34	20
ATN universities	0	17	4
RUN/IRU/unaligned	8	10	7
<b>all universities</b>	<b>32</b>	<b>61</b>	<b>31</b>

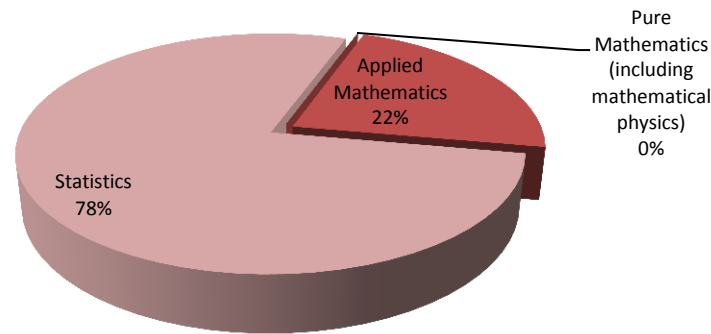
**Masters by Coursework completions at Go8 universities by field of study**



**Masters by Coursework completions at RUN/IRU/unaligned universities by field of study**



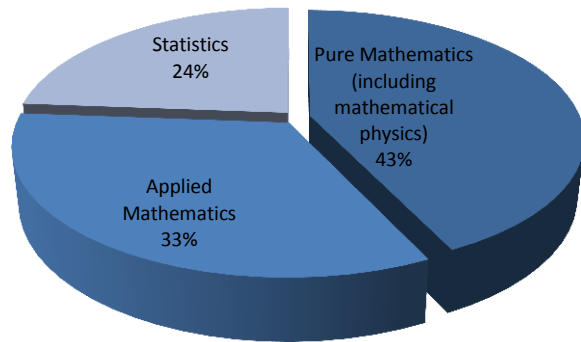
**Masters by Coursework completions at ATN universities by field of study**



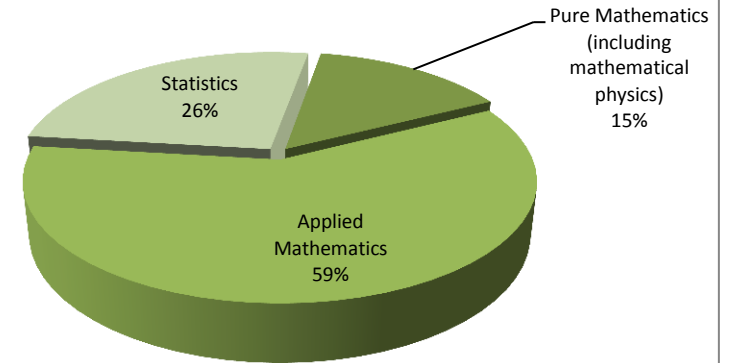
**Masters by Coursework completions in 2013 by field of study**

	Pure Mathematics (including mathematical physics)	Applied Mathematics	Statistics
Go8 universities	19	20	18
ATN universities	0	10	35
RUN/IRU/unaligned	0	0	5
<b>all universities</b>	<b>19</b>	<b>30</b>	<b>58</b>

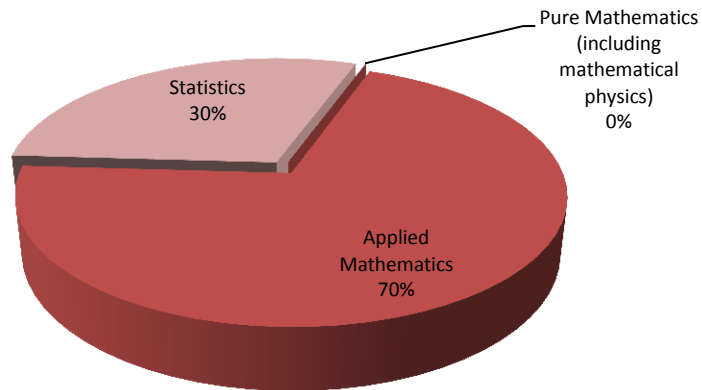
**PhD completions at Go8 universities by field of study**



**PhD completions at RUN/IRU/unaligned universities by field of study**



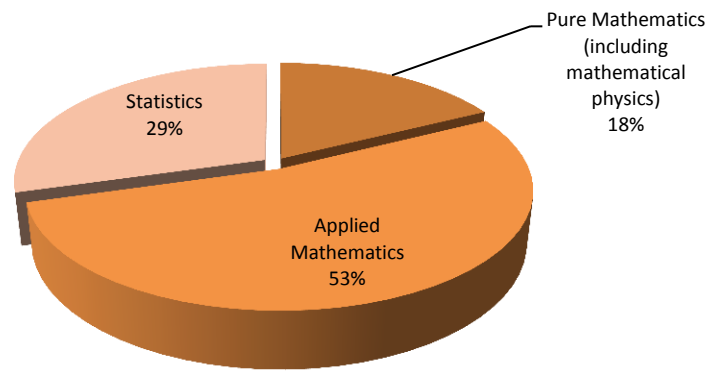
**PhD completions at ATN universities by field of study**



**PhD completions in 2013 by field of study**

	Pure Mathematics (including mathematical physics)	Applied Mathematics	Statistics
Go8 universities	27	21	15
ATN universities	0	19	8
RUN/IRU/unaligned	4	16	7
<b>all universities</b>	<b>31</b>	<b>56</b>	<b>30</b>

**Masters by Research completions by field of study (all universities)**



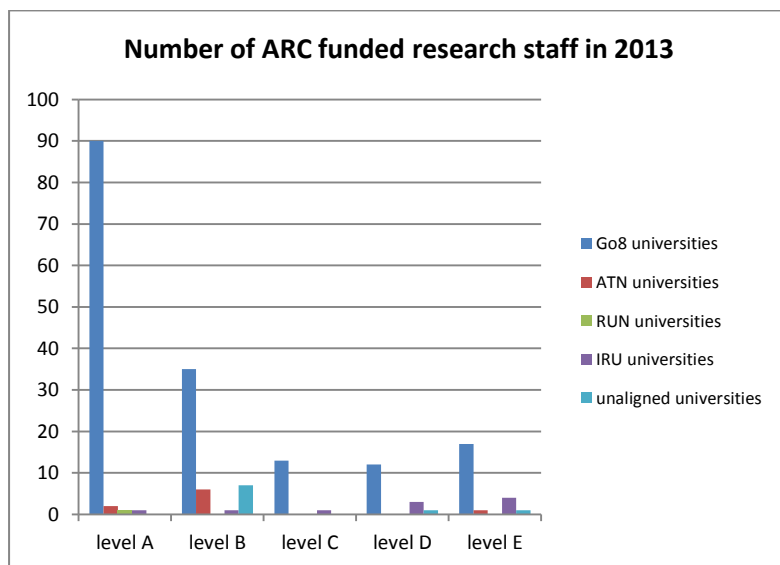
**Masters by Research completions in 2013 by field of study**

	Pure Mathematics (including mathematical physics)	Applied Mathematics	Statistics
Go8 universities	3	7	1
ATN universities	0	1	0
RUN/IRU/unaligned	0	1	4
<b>all universities</b>	<b>3</b>	<b>9</b>	<b>5</b>

## RESEARCH DATA 2013

### Number of ARC-funded research staff in 2013 (not FTE)

	level A	level B	level C	level D	level E
Go8 universities	90	35	13	12	17
ATN universities	2	6	0	0	1
RUN universities	1	0	0	0	0
IRU universities	1	1	1	3	4
unaligned universities	0	7	0	1	1
Total all universities	94	50	15	16	23



### Number of grants held in 2012 and 2013

	Discovery Projects		Linkage projects		OLT Grants and Fellowships	
	2012	2013	2012	2013	2012	2013
Go8 universities	139	159	14	12	2	3
ATN universities	14	12	6	2	1	1
RUN universities	3	3	0	0	0	0
IRU universities	12	13	3	3	0	0
unaligned universities	11	11	1	1	0	0
<b>all universities</b>	<b>179</b>	<b>198</b>	<b>24</b>	<b>18</b>	<b>3</b>	<b>4</b>

### Estimated success rate in securing ARC funding

Go8 universities	31%
ATN universities	17%
RUN/IRU/unaligned universities	20%
<b>all universities</b>	<b>24%</b>

### Number of research workshops/conferences held in 2013

Average Go8 universities	6
Average ATN universities	1
Average RUN/IRU/unaligned universities	1
<b>Average all universities</b>	<b>3</b>

**Number of universities maintaining a funded statistical consulting service in 2013**

<b>Go8 universities</b>	4
<b>ATN universities</b>	3
<b>RUN universities</b>	1
<b>IRU universities</b>	2
<b>unaligned universities</b>	2
<b>all universities</b>	12

**Average number of international visitors**

	<b>2012</b>	<b>2013</b>
average Go8 universities	113	60
average ATN universities	2	1
average RUN universities	9	2
average IRU universities	11	13
average unaligned universities	6	8
average all universities	28	27

## EQUITY AND DIVERSITY IN 2013

### Staff and students identifying as Aboriginal and Torres Strait Islander in 2013

	Staff	Students
Total all universities	3	225

Measures you or your university have taken in the following areas:

#### Low socioeconomic status

*La Trobe University*: see <http://www.latrobe.edu.au/about/vision/our-campuses-and-communities>

*Monash University*: <http://www.monash.edu.au/access/assets/pdf/social-inclusion-strategy.pdf>

*University of Newcastle*: is the largest provider of enabling programs in Australia, offering one third of the nation's Commonwealth supported places. Today 27 per cent of our students come from low socio-economic backgrounds, well above the sector average of 16 per cent.

*University of Queensland*: Please refer to the UQ equity website: <http://www.uq.edu.au/equity/>

*University of South Australia*: We are very pro-active in the low socio-economic field and have a wide range of access and support arrangements

*University of Southern Queensland*: We have many outreach programs which aim to improve low SES numbers in STEM areas in general and maths particular

*UNSW Canberra (ADFA)*: All recruitment is done by the Australian Defence Force (ADF) and is in-line with their policies.

#### Gender balance

*La Trobe University* : see <http://www.latrobe.edu.au/students/equality/eeo-work>

*Monash University* <http://www.monash.edu.au/access/assets/pdf/social-inclusion-strategy.pdf>

*University of Newcastle*: All committees must have a membership of no less than 33 per cent of each gender. The University of Newcastle has strategies to achieve appropriate gender representation ([www.newcastle.edu.au/policy/000780.html](http://www.newcastle.edu.au/policy/000780.html)). See also [women@UoN](mailto:women@UoN)/Equity and Diversity/Units/The University of Newcastle

*University of Southern Queensland*: Also gender balance, and Aboriginal and Torres Strait Islander support – including the David Unaipon College of Indigenous Education.

*UNSW Canberra (ADFA)*: All recruitment is done by the Australian Defence Force (ADF) and is in-line with their policies.

#### Aboriginal and Torres Strait Islander

*La Trobe University* : see <https://intranet.latrobe.edu.au/hr/recruitment/indigenous>

*Monash University* <http://www.monash.edu.au/access/assets/pdf/social-inclusion-strategy.pdf>

*University of Newcastle* The Wollotuka Institute is committed to the advancement and leadership of Indigenous education at a local, national and global level. It also continues to draw strength from culture, communities and past journeys. Furthermore, in 2013 the University of Newcastle has created a new Centre of Excellence for Equity in High Education which will help to ensure access to university to students from a range of backgrounds, including indigenous students.

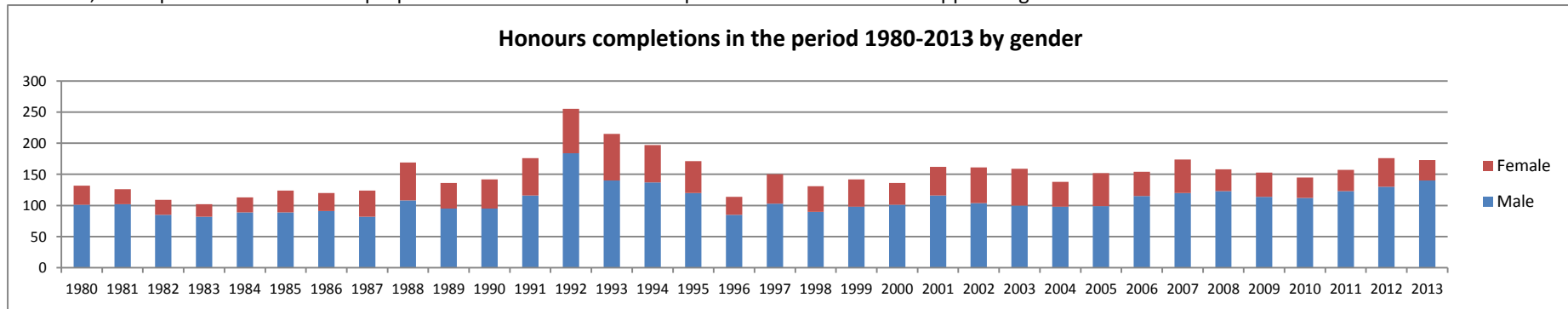
*University of Southern Queensland*: Also gender balance, and Aboriginal and Torres Strait Islander support – including the David Unaipon College of Indigenous Education.

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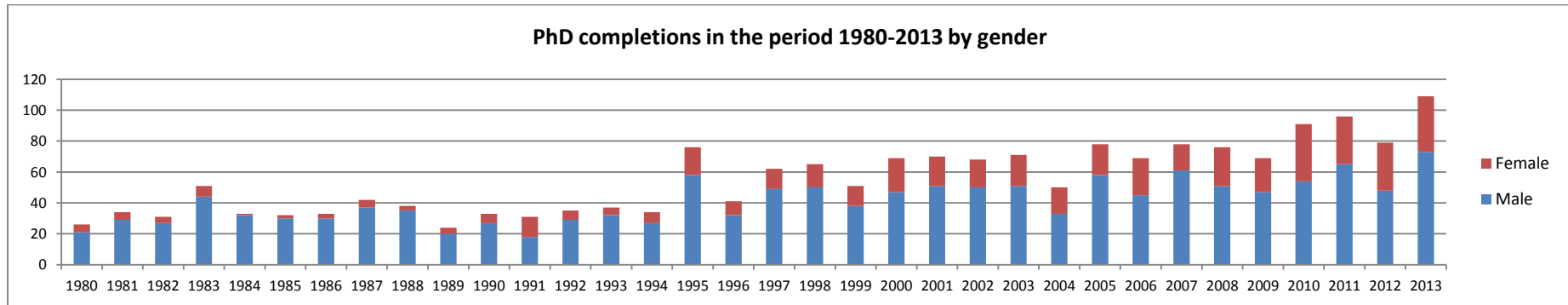


## APPENDIX 1: Honours and PhD completions 1980-2013

Peter Johnston at Griffith University has, on behalf of the Australian Mathematical Society, assembled longitudinal data on honours and higher degree completions in Australia for many years. Despite spikes upwards and downwards, these data show that honours completions in mathematics and statistics have been fairly stable since 1980. The proportion of females completing honours degrees had increased slightly since 1980 but has not been impressive in the last few years: in the 1980s the average proportion of females completing an honours degree was 25.79%, in the 1990s this increased to 30.93%, levelling off to 29.39% in the first decade of this century. However, in the period 2010-2013 the proportion of female honours completions decreased to a disappointing 22.41%.\*



Though PhD completions fell between 2011 and 2012 and rose again in 2013, the long-term trend has seen a gradual increase. The proportion of females completing a PhD has increased markedly in the last thirty years. In the 1980s, the average proportion of females completing a PhD in mathematics and statistics was only 11.54%; in the 1990s this rose to 22.65%, and in the first decade of this century 29.38% of PhD graduates was female. In the years 2010-2012 the average female proportion rose to 36.30%.



\*Please note that, for the AustMS data collection, the two-year coursework Masters degree offered at Melbourne University has been merged with the Honours data for the time being – in the AMSI Survey these are collected under Coursework Masters. Furthermore, the AMSI Survey collects gender data on total enrolments, whereas the AustMS collection assembles gender data on completions.

## **APPENDIX 2: List of respondents to the 2013 AMSI Survey by University grouping**

### **Group of Eight (Go8)**

University of Sydney  
University of New South Wales (including ADFA)  
University of Adelaide  
University of Melbourne  
Monash University  
Australian National University  
University of Queensland

### **Australian Technology Network (ATN)**

Queensland University of Technology  
The University of South Australia  
RMIT University  
The University of Technology, Sydney

### **Regional universities network (RUN)**

Central Queensland University\*  
Southern Cross University\*  
Federation University Australia  
University of New England  
University of Southern Queensland  
University of the Sunshine Coast\*

### **Innovative Research Universities (IRU)**

Charles Darwin University\*  
Flinders University  
Griffith University  
La Trobe University  
Murdoch University\*  
The University of Newcastle

### **Unaligned**

Australian Catholic University\*  
Bond University\*  
Charles Sturt University  
Deakin University  
Edith Cowan University\*  
Swinburne University of Technology  
University of Notre Dame\*  
University of Wollongong  
Victoria University\*

\*These universities were not members of AMSI in 2013 and were sent a reduced questionnaire.