



AMSI Member Survey 2012

In October 2012, the AMSI member universities were sent a questionnaire about their staffing situation, teaching, student numbers and other data. The final results of this survey are contained in this document, AMSI wishes to thank the following universities for their generous cooperation:

University of Western Sydney
James Cook University
University of Technology, Sydney
UNSW Canberra
University of New South Wales
Flinders University
University of South Australia
University of Western Australia
University of Southern Queensland

RMIT
Swinburne University of Technology
University of Ballarat
Macquarie University - Statistics
Macquarie University - Mathematics
Australian National University
The University of Newcastle
Deakin University
The University of Adelaide

University of Sydney
La Trobe University
University of New England
The University of Melbourne
Charles Sturt University
Queensland University of Technology
Monash University
The University of Queensland
University of Wollongong

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Numbers of teaching hours per week - All universities (27 respondents)

AMSI Member Survey 2012: Teaching by academic and casual staff in 2012

	tutorial hours all staff	tutorial hours casual staff	% of total taught by casuials
Average Go8 Universities	223.16	169.16	78.27%
Average non-G08 Universities	96.66	67.04	58.15%
Average all universities	135.58	98.46	64.34%

	lecture hours all staff	lecture hours casual staff	% of total taught by casuials
Average Go8 Universities	112.90	5.26	4.66%
Average non-G08 Universities	64.38	7.91	12.29%
Average all universities	79.31	7.09	8.94%

Note: Due to ambiguities arising from question wording these figures have to be approached with caution. In the 2013 survey the question regarding to the number of teaching hours per week will be rephrased. It will be interesting to see if the very high percentage of casual teaching of tutorials in Go8 universities will be repeated.

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Number of staff employed in mathematical sciences in FTE (excluding casuals) - all universities (27 respondents)

AMSI Member Survey 2012: 'Teaching and Research' staff employed in mathematical sciences departments in Group of Eight universities in 2011 and 2012, compared to 2005*

Teaching and Research	2005	2011	2012	Comparison 2005-2012	
				Number	%
University of Western Australia	24.5	21.50	19.50	-5.00	-20.41
ANU	24	25.95	29.90	5.90	24.58
University of Adelaide	24	30.50	28.00	4.00	16.67
University of Sydney	38.41	34.80	34.30	-4.11	-10.70
University of Melbourne	34.5	38.60	26.10	-8.40	-24.35
University of Queensland	27.85	31	32	4.15	14.90
University of New South Wales	49.33	44	42	-7.33	-14.86
Monash University	26.1	27.8	29.6	3.50	13.41
Total Go8	248.69	254.15	241.40	-7.29	-2.93

*Staff classified by the participating universities as 'Teaching only' or 'Research only' are not listed in this table.

Note: the Go8 figures for 'Teaching and Research' staff have been individualised to enable comparison with a former survey dating back to 2005. These results have been published in the Discipline Profile 2013 with permission of the universities involved.

AMSI Member Survey 2012: number of staff employed in mathematical sciences departments in FTE (excluding casuals)

	2011				2012				Change	
	Teaching only	Research only	Teaching & Research	All Staff	Teaching only	Research only	Teaching & Research	All staff	Teaching & research	All staff
Go8 universities	9.00	144.80	254.15	407.95	15.00	160.47	241.40	416.87	-5.02%	2.19%
Non-G08 universities	12.90	42.65	268.45	324.00	11.50	61.15	268.15	340.80	-0.11%	5.19%
Total all universities	21.90	187.45	522.60	731.95	26.50	221.62	509.55	757.67	-2.50%	3.51%

Note: The slight increase in staff numbers between 2011 and 2012 is mainly due to an increase in research only staff, both at Go8 and non-Go8 universities.

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Total undergraduate load in EFTSL per FTE teaching staff (excluding casuals) - all universities (25 respondents)

AMSI Member Survey 2012: Total undergraduate load in EFTSL per FTE teaching staff (excluding casuals) in 2011 and 2012

	2011	2012	Comparison
Average G08	24.14	25.10	3.98%
Average non Go8 universities	27.94	27.38	-2.01%
Average all universities	26.71	26.65	-0.21%

Note: Overall, the total undergraduate load has remained fairly stable between 2011 and 2012.

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AMSI Member Survey 2012

Student enrolments in EFTSL - all universities (27 respondents)

AMSI Member Survey 2012: Undergraduate enrolments in 2011 and 2012 (in EFTSL)

	2011			2012			Change		
	3rd year	2nd year	1st year	3rd year	2nd year	1st year	3rd year	2nd year	1st year
Total Go8 universities	634.83	1834.88	4409.80	686.63	1976.15	4316.30	8.16%	7.70%	-2.12%
Total non Go8 universities	464.26	1057.43	2667.11	479.98	1399.05	2650.85	3.39%	32.31%	-0.61%
Total all universities	1099.08	2892.31	7076.91	1166.61	3375.20	6967.15	6.14%	16.70%	-1.55%

Note: The University of Southern Queensland, University of Ballarat and Macquarie University (Mathematics) did not supply undergraduate enrolment numbers. The spike in 2nd year enrolments among non-Go8 universities is mostly due to one university picking up very substantial new service teaching. However, overall undergraduate enrolment numbers were up from 2011 levels.

AMSI Member Survey 2012: Honours and Higher Degree enrolments in 2011 and 2012 (in EFTSL)

	2011				2012				Change			
	PhD	Masters by Coursework	Masters by Research	Honours	PhD	Masters by Coursework	Masters by Research	Honours	PhD	Masters by Coursework	Masters by Research	Honours
Total Go8	281.40	137.00	35.80	119.50	299.30	135.90	28.60	113.50	6.36%	-0.80%	-20.11%	-5.02%
Total non Go8 universities	254.50	152.25	25.00	54.75	268.00	173.76	26.00	62.63	5.30%	14.12%	4.00%	14.38%
Total all universities	535.90	289.25	60.80	174.25	567.30	309.66	54.60	176.13	5.86%	7.05%	-10.20%	1.08%

Note: overall, higher degree enrolments in 2012 were up compared with 2011, except for Masters by research numbers, which have been in decline for some time. Please also note the slight decline in honours enrolments at Go8 universities, compensated for by a similar increase in absolute enrolment numbers at non-Go8 universities. It is important to note however, that the University of Melbourne no longer offers an Honours degree, their Masters degree has been listed under Masters by Coursework.

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Commencements and completions of PhD and Masters by research Degrees - all universities (27 respondents)

AMSI Member Survey 2012: Commencements and completions of PhD and Masters by research Degrees in 2011 and 2012

	PhD commencements		PhD completions		Masters by research commencements		Masters by research completions	
	2011	2012*	2011	2012*	2011	2012*	2011	2012*
Total Go8 universities	89	86	52	48	10	19	8	7
Total non Go8 universities	64	57	53	43	14	7	0	7
Total all universities	153	143	105	91	24	26	8	14

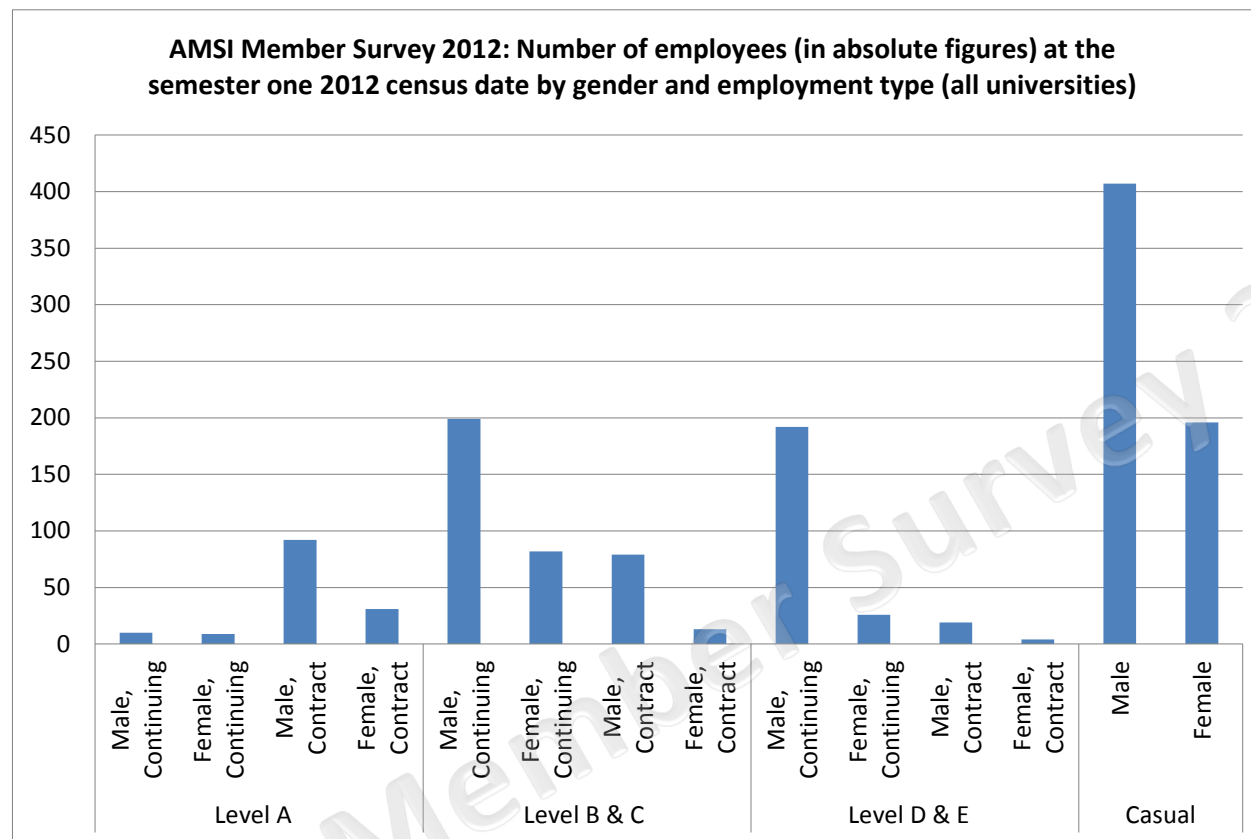
Note: respondents were asked for projected 2012 figures at the time of data collection. In the next survey they will be asked to confirm the 2012 numbers.

PhD commencements as well as completions have decreased slightly between 2011 and 2012;

Masters by Research commencements and completions have been slightly up compared to 2011.

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Staffing Profile in 2012 all universities (27 respondents)



AMSI Member Survey 2012: Number of employees (in absolute figures) at the semester one 2012 census date by gender and employment type (all universities)

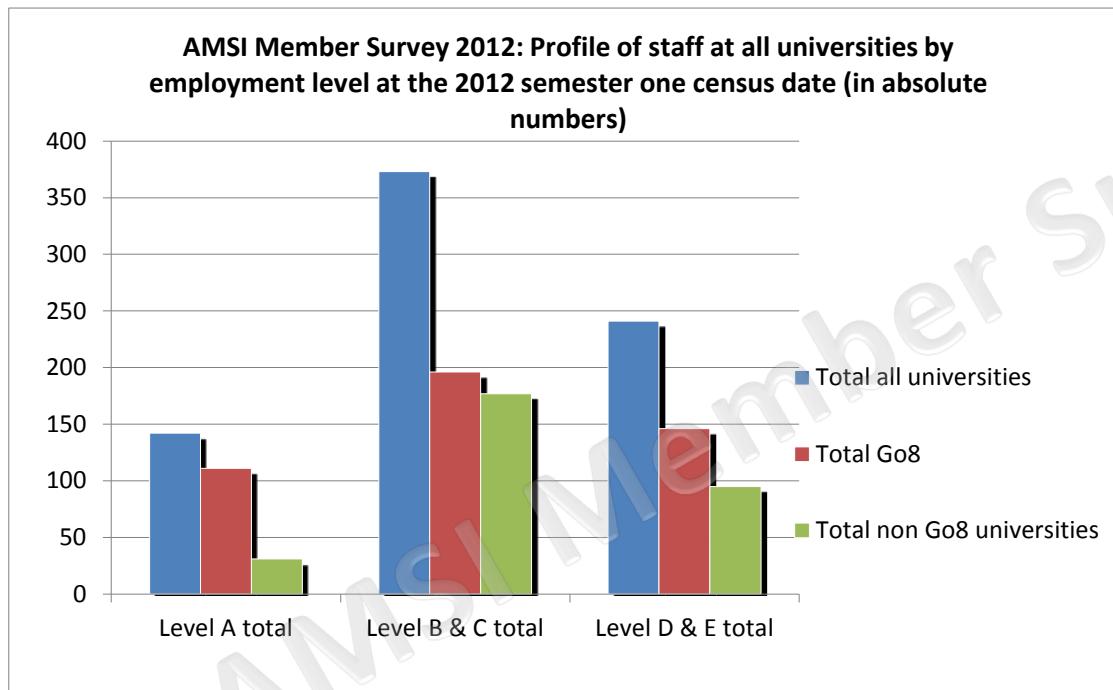
	Level A				Level B & C				Level D & E				Casual	
	Male, Continuing	Female, Continuing	Male, Contract	Female, Contract	Male, Continuing	Female, Continuing	Male, Contract	Female, Contract	Male, Continuing	Female, Continuing	Male, Contract	Female, Contract	Male	Female
Total all universities	10	9	92	31	199	82	79	13	192	26	19	4	407	196

Note: only 20 universities supplied data on the number of casual staff employed

Staffing Profile in 2012 all universities (27 respondents)

AMSI Member Survey 2012: Profile of staff at all universities by employment level at the 2012 semester one census date (in absolute numbers), excluding casual staff

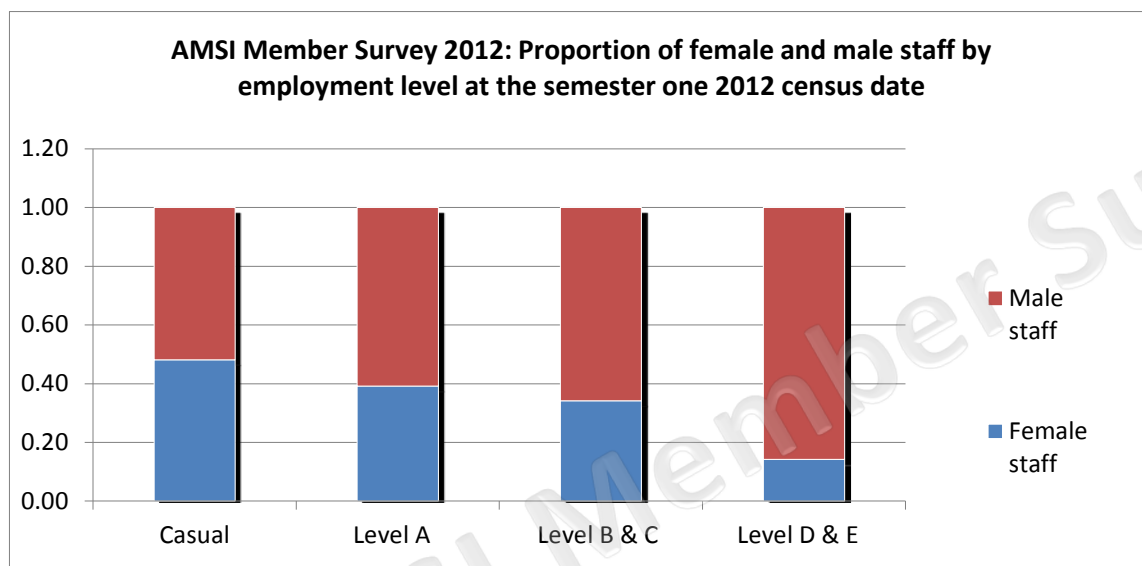
	Level A total	Level B & C total	Level D & E total
Total all universities	142	373	241
Total Go8	111	196	146
Total non Go8 universities	31	177	95



Staffing Profile in 2012 all universities (27 respondents)

AMSI Member Survey 2012: Proportion of female and male staff by employment level at the semester one 2012 census date

	Female staff	Male staff
Casual	0.48	0.52
Level A	0.39	0.61
Level B & C	0.34	0.66
Level D & E	0.14	0.86



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Student numbers (absolute) at the semester 1 census date 2012 - all universities (27 respondents)

AMSI Member Survey 2012: Undergraduate student profile (in absolute numbers) at the semester one 2012 census date by gender and domestic/international status

	Domestic numbers		International numbers		Domestic %		International %		Female % overall	Domestic % overall
	Male	Female	Male	Female	Male	Female	Male	Female		
Total Go8	16,195	7,588	3,277	1,848	56.02%	26.25%	11.34%	6.39%	32.64%	82.27%
Total non Go8	4,957	2,799	895	702	53.00%	29.93%	9.57%	7.51%	37.43%	82.93%
Total all universities	21,152	10,387	4,172	2,550	55.28%	27.15%	10.90%	6.66%	33.81%	82.43%

AMSI Member Survey 2012: Honours and Higher Degree student profile (in absolute numbers) at the semester one 2012 census date by gender and domestic/international status

Honours	Total	Domestic %		International %		Domestic % overall	Female % overall
		Male	Female	Male	Female		
Total Go8	112	74.11%	20.54%	3.57%	1.79%	94.64%	22.32%
Total non Go8	72	61.11%	29.17%	5.56%	4.17%	90.28%	33.33%
Total all universities	184	69.02%	23.91%	4.35%	2.72%	92.93%	26.63%

Masters by Coursework	Total	Domestic %		International %		Domestic % overall	Female % overall
		Male	Female	Male	Female		
Total Go8	336	44.64%	22.62%	19.94%	12.80%	67.26%	35.42%
Total non Go8	249	41.37%	14.06%	29.72%	14.86%	55.42%	28.92%
Total all universities	585	43.25%	18.97%	24.10%	13.68%	62.22%	32.65%

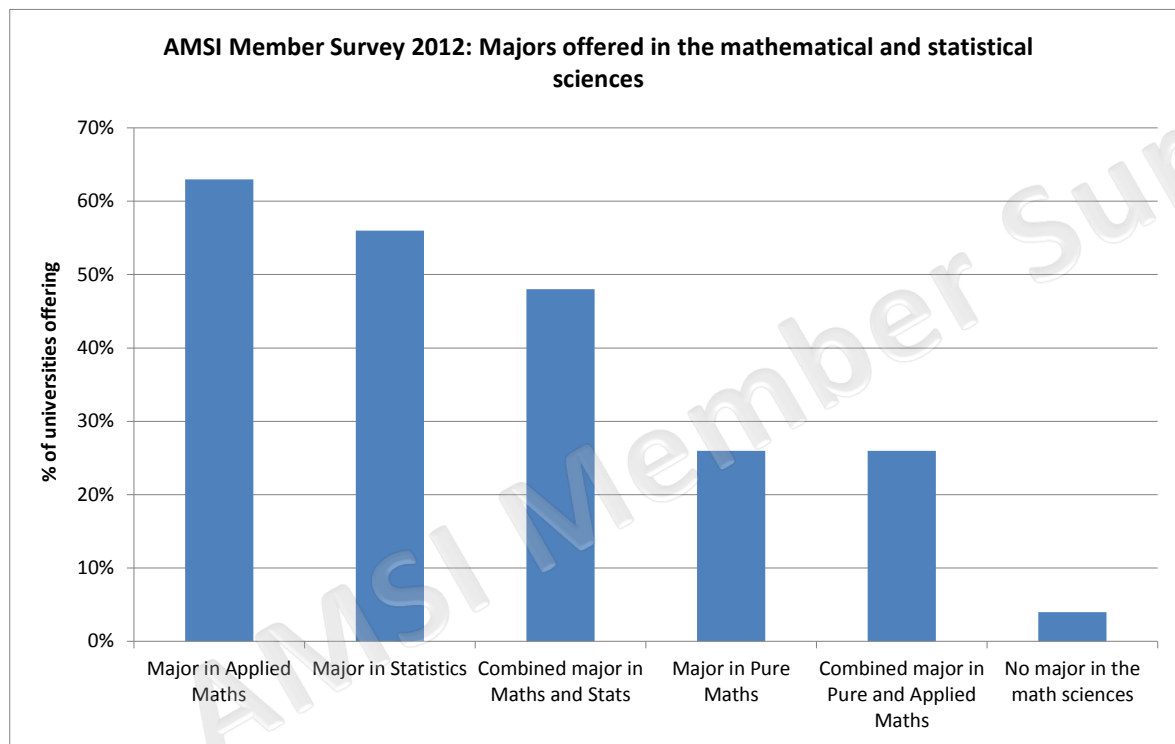
Masters by Research	Total	Domestic %		International %		Domestic % overall	Female % overall
		Male	Female	Male	Female		
Total Go8	41	63.41%	21.95%	7.32%	7.32%	85.37%	29.27%
Total non Go8	27	48.15%	11.11%	25.93%	14.81%	59.26%	25.93%
Total all universities	68	57.35%	17.65%	14.71%	10.29%	75.00%	27.94%

PhD	Total	Domestic %		International %		Domestic % overall	Female % overall
		Male	Female	Male	Female		
Total Go8	365	56.71%	16.99%	16.44%	9.86%	73.70%	26.85%
Total non Go8	282	35.46%	18.09%	25.18%	21.28%	53.55%	39.36%
Total all universities	647	47.45%	17.47%	20.25%	14.84%	64.91%	32.30%

Major degrees in Mathematics and/or Statistics offered all universities (27 respondents)

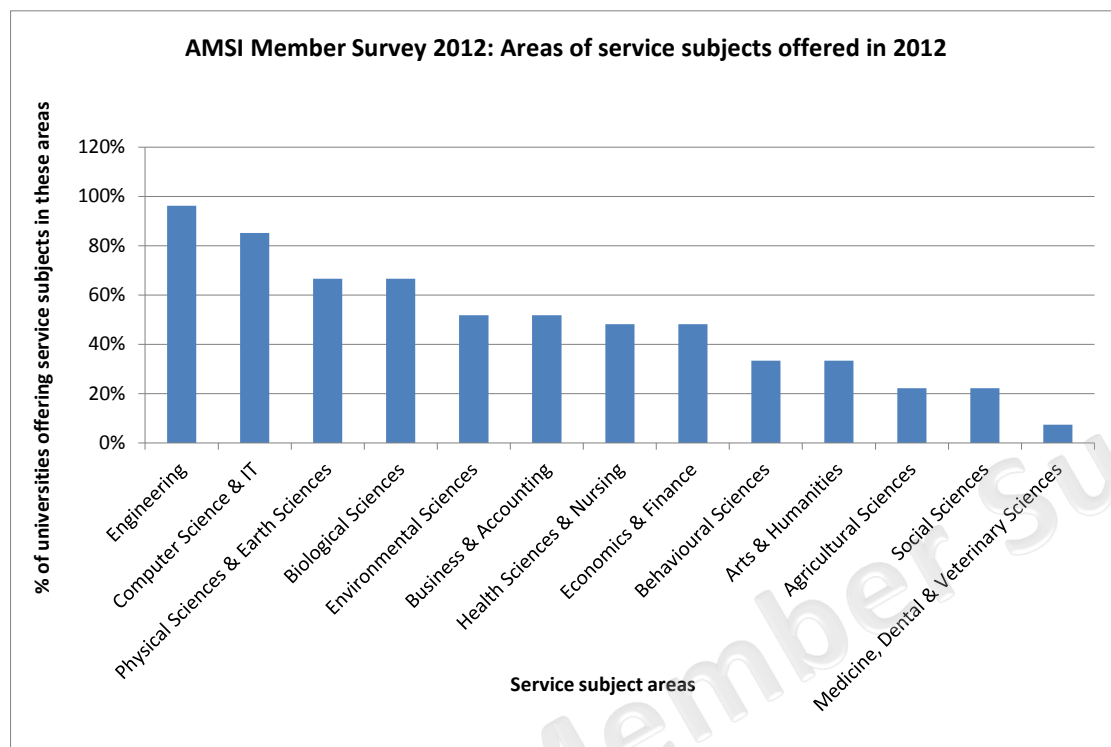
AMSI Survey 2012: Majors offered in the mathematical and statistical sciences

Majors offered	%
Major in Applied Maths	63%
Major in Statistics	56%
Combined major in Maths and Stats	48%
Major in Pure Maths	26%
Combined major in Pure and Applied Maths	26%
No major in the math sciences	4%



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Areas of service subjects offered in 2012 all universities (27 respondents)



Subject area	Number offered
Engineering	96%
Computer Science & IT	85%
Physical Sciences & Earth Sciences	67%
Biological Sciences	67%
Environmental Sciences	52%
Business & Accounting	52%
Health Sciences & Nursing	48%
Economics & Finance	48%
Behavioural Sciences	33%
Arts & Humanities	33%
Agricultural Sciences	22%
Social Sciences	22%
Medicine, Dental & Veterinary Science	7%

AMSI Member Survey 2012: Average number of subject areas serviced in 2012

Average all universities	6.37
Average G08	6.38
Average non G08	6.37

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Numbers of student and staff identifying as Aboriginal and Torres Strait Islander (21 respondents)

AMSI Member Survey 2012: Numbers of staff and students identifying as Aboriginal and Torres Strait Islander

	Staff	Students
Go8 Universities total	0	16
non Go8 Universities total	1	17
All universities	1	33

AMSI is investigating effective methods to increase engagement; can you suggest any that have worked for you or measures your university has taken in the following areas:

Low socioeconomic status

"Recruitment is performed by [...] so we have no way of influencing the outcome."

"We have many outreach programs which aim to improve low SES numbers in STEM areas in general and maths particular." ** Separate file sent **

"University gives 4 bonus points for admitting local area students. [...] and [...] are deemed low socio ec. Equity scholarships for financially disadvantaged students. Strong enabling programs"

"Visits by academic staff to low socioeconomic High Schools. University level scholarships and bursaries to students from LSEO areas."

"We run a Mathematics Explorer Day in November for Year 9 students from target schools. The schools are asked to send four students who they think would benefit from the experience (not necessarily their highest-performing students). We also run a lot of activities in conjunction with the [...] Maths Teachers Network which has a strong participation from local non-selective state schools. There is also a university-wide In2Uni program targeting low ses schools, both primary and secondary."

Gender balance

"Recruitment is performed by [...] so we have no way of influencing the outcome."

** Separate file sent **

"a third represents female academic staff members"

"1/3 of all interview panels are female. Women are specifically invited to apply for all positions. Academic women in leadership programs, women@[...]; staff development programs. Equity research fellowships for staff and RhD students".

"Engineering implemented a long-term strategy of attracting women in that field with scholarships and on-campus activities. It would be good to do the same in mathematics."

"We market female contributions and emphasise the use of the mathematical sciences can be used to make a difference in the world."

Aboriginal and Torres Strait Islander

"Recruitment is performed by [...] so we have no way of influencing the outcome."

** Separate file sent **

"specific enabling program for indigenous students (UPUG). Faculty and University scholarships. Cooperative bookshop scholarships"

"University level scholarships and bursaries to target students with ATSIL backgrounds. Our staff are on University and Faculty level committees that are targeting both LSEO and ATSIL students"

Number of international visitors to mathematics departments (22 respondents)

AMSI Survey 2012: Average number of international visitors

Average Go8	90.00
Average non Go8	6.65
Average all universities	25.59

Note: due to ambiguity in the question the responses have not been reliable. The next survey will contain improved question wording.

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