

This data pack was produced by TBR to help the London Mathematical Society update the analysis in their February 2013 report *Advancing Women in Mathematics: Good Practice in UK University Departments*.





# Gender in Mathematics data update

January 2016

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### A-level mathematics and further mathematics candidates by gender, Summer 2012 to Summer 2015.

Source: Joint Council for Qualifications (JCQ) 2012, 2013, 2014, 2015

Subject		2012			2013			2014			2015	
	Female	Male	Total									
Mathematics	34,301	51,413	85,714	34,625	53,435	88,060	34,374	54,442	88,816	35,937	56,774	92,711
Mathematics (Further)	3,972	9,251	13,223	3,951	9,870	13,821	3,975	10,053	14,028	4,177	10,816	14,993

	2012			2013			2014			2014	
Female	Male	Total									
40%	60%	100%	39%	61%	100%	39%	61%	100%	39%	61%	100%
30%	70%	100%	29%	71%	100%	28%	72%	100%	28%	72%	100%

# G1 Mathematics graduates by gender, domicile and level of study, 2011/12 to 2014/15 Source: HESA Student Record 2011/12, 2012/13, 2013/14, 2014/15

Domicile	Level of study		2011/12			2012/13			2013/14			2014/15	
		Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
UK	First degree	2,340	3,430	5,770	2,660	4,110	6,765	2,605	3,860	6,465	2,400	3,795	6,200
	Other undergraduate	415	575	985	225	330	555	240	375	615	155	335	485
	Masters	100	255	355	100	260	360	100	255	355	90	250	340
	Doctorate	50	165	215	70	210	280	50	160	210	60	185	245
	Other postgraduate	70	45	115	30	50	80	30	60	90	25	45	70
Non-UK	First degree	560	620	1,180	575	610	1,185	655	665	1,320	655	715	1,370
	Other undergraduate	5	30	35	10	5	15	35	45	85	25	55	80
	Masters	250	485	735	360	540	900	265	495	760	290	445	735
	Doctorate	60	140	200	75	155	225	75	135	205	70	175	240
	Other postgraduate	5	5	10	0	5	5	15	30	45	20	25	50
All graduates	First degree	2,900	4,050	6,950	3,235	4,720	7,950	3,260	4,525	7,785	3,055	4,510	7,565
	Other undergraduate	420	600	1,020	235	340	570	280	420	700	180	385	565
	Masters	350	740	1,090	460	800	1,260	365	750	1,115	385	695	1,080
	Doctorate	115	305	420	145	360	505	125	290	415	125	360	490
	Other postgraduate	75	50	125	30	55	85	45	90	135	45	70	115
Grand total		3,860	5,750	9,605	4,100	6,270	10,370	4,070	6,080	10,150	3,790	6,025	9,815

	2011/12		2	012/13		2	2013/14		7	2014/15	
Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
41%	59%	100%	39%	61%	100%	40%	60%	100%	39%	61%	100%
42%	58%	100%	40%	60%	100%	39%	61%	100%	31%	69%	100%
28%	72%	100%	28%	72%	100%	28%	72%	100%	27%	73%	100%
24%	76%	100%	25%	75%	100%	24%	76%	100%	24%	76%	100%
60%	40%	100%	38%	62%	100%	32%	68%	100%	34%	66%	100%
47%	53%	100%	48%	52%	100%	50%	50%	100%	48%	52%	100%
15%	85%	100%	57%	43%	100%	43%	57%	100%	33%	67%	100%
34%	66%	100%	40%	60%	100%	35%	65%	100%	40%	60%	100%
31%	69%	100%	32%	68%	100%	36%	64%	100%	28%	72%	100%
44%	56%	100%	29%	71%	100%	33%	67%	100%	47%	53%	100%
42%	58%	100%	41%	59%	100%	42%	58%	100%	40%	60%	100%
41%	59%	100%	41%	59%	100%	40%	60%	100%	32%	68%	100%
32%	68%	100%	37%	63%	100%	33%	67%	100%	35%	65%	100%
27%	73%	100%	28%	72%	100%	30%	70%	100%	26%	74%	100%
59%	41%	100%	38%	62%	100%	32%	68%	100%	39%	61%	100%
40%	60%	100%	40%	60%	100%	40%	60%	100%	39%	61%	100%

HE academic staff by cost centre, type of academic contract (academic employment function/professorship marker), nationality (UK/non-UK), age-band and gender, 2011/12 to 2014/15. Source: HESA Staff Record 2011/12, 2012/13, 2013/14, 2014/15

#### HE academic staff by cost centre, nationality (UK/non-UK), and gender, 2011/12 to 2014/15.

Domicile	Cost Centre		2011/12			2012/13			2013/14			2014/15	
		Female	Male	Total									
UK	Mathematics	325	1,490	1,815	355	1,520	1,875	360	1,535	1,895	365	1,535	1,895
	Other	43,660	59,010	102,675	45,030	60,040	105,065	46,670	61,045	107,715	48,085	61,715	109,800
	Total	43,985	60,500	104,490	45,380	61,560	106,940	47,025	62,580	109,610	48,450	63,245	111,695
Non-UK	Mathematics	290	1,095	1,385	320	1,200	1,525	375	1,355	1,730	400	1,415	1,815
	Other	15,870	20,625	36,490	16,920	21,980	38,900	18,545	24,250	42,795	20,290	26,105	46,395
	Total	16,160	21,720	37,880	17,240	23,180	40,425	18,920	25,605	44,525	20,685	27,520	48,210
Not Known	Mathematics	15	70	85	15	55	75	15	65	80	15	65	85
	Other	1,580	1,915	3,500	1,375	1,680	3,055	1,420	1,790	3,210	1,385	1,720	3,105
	Total	1,595	1,985	3,585	1,390	1,740	3,130	1,435	1,855	3,290	1,405	1,785	3,190
All	Mathematics	630	2,655	3,285	690	2,780	3,470	750	2,955	3,705	780	3,015	3,795
	Other	61,110	81,555	142,665	63,320	83,700	147,020	66,635	87,085	153,720	69,760	89,540	159,300
Grand Total		61,740	84,210	145,950	64,010	86,480	150,495	67,385	90,040	157,425	70,540	92,555	163,095

Note: data for the gender category 'unknown' are not shown in this table; however, they are included in the totals provided.

#### HE academic staff by cost centre, type of academic contract (academic employment function/professor marker)\*, and gender, 2011/12 to 2014/15.

Cost Centre	Type of Academic Contract		2011/12			2012/13			2013/14			2014/15	
		Female	Male	Total									
Mathematics	Professors	50	670	720	50	625	675	60	645	710	60	645	705
	Senior lecturers/lecturers	395	1,365	1,760	450	1,545	1,995	490	1,645	2,135	520	1,700	2,220
	Researchers	145	550	695	185	605	790	195	660	855	195	660	850
	Other grades	0	5	5	5	10	15	0	5	5	5	10	15
	Not applicable/Not required (Default code)	35	70	100	~	~	~	~	~	~	~	~	~
	Total	630	2,655	3,285	690	2,780	3,470	750	2,955	3,705	780	3,015	3,795

Cost Centre	Type of Academic Contract		2011/12			2012/13			2013/14			2014/15	
		Female	Male	Total									
Other	Professors	3,510	12,915	16,425	3,465	11,990	15,460	3,815	12,600	16,415	4,025	12,670	16,695
	Senior lecturers/lecturers	37,755	45,920	83,675	41,080	50,065	91,150	42,970	51,485	94,450	44,800	52,530	97,325
	Researchers	17,170	19,745	36,920	17,995	20,670	38,665	19,190	22,205	41,390	20,255	23,535	43,790
	Other grades	220	285	500	775	975	1,750	665	795	1,460	675	805	1,485
	Not applicable/Not required (Default code)	2,460	2,690	5,150	~	~	~	~	~	~	~	~	~
	Total	61,110	81,555	142,665	63,320	83,700	147,020	66,635	87,085	153,720	69,760	89,540	159,300
	•												
Grand Total		61,740	84,210	145,950	64,010	86,480	150,495	67,385	90,040	157,425	70,540	92,555	163,095

Note: data for the gender category 'unknown' are not shown in this table; however, they are included in the totals provided.

Note: "~" indicates where the category is N/A.

\*Type of academic contract figures have been calculated using a different methodology for 2011/12 compared with all other years included in the tables. Please see the guidance notes sheet for more information.

## HE academic staff in the mathematics cost centre, by type of academic contract(academic employment function/professorship marker)\*, age-band, and gender, 2011/12 to 2014/15.

Type of Academic	Age-band		2011/12			2012/13			2013/14			2014/15	
Contract		Female	Male	Total									
Professors	20 years and under	0	0	0	0	0	0	0	0	0	0	0	0
	21 to 25 years	0	0	0	0	0	0	0	0	0	0	0	0
	26 to 30 years	0	0	0	0	0	0	0	0	0	0	0	0
	31 to 35 years	0	5	5	0	10	10	0	10	10	0	5	5
	36 to 40 years	5	35	45	5	35	45	5	45	50	5	40	50
	41 to 45 years	10	95	100	10	85	95	20	85	105	15	90	105
	46 to 50 years	10	140	150	10	135	145	10	130	140	15	125	135
	51 to 55 years	10	150	155	10	115	125	15	130	145	10	130	140
	56 to 60 years	10	130	135	5	115	120	5	110	115	5	120	125
	61 to 65 years	5	105	110	5	105	110	5	100	105	5	95	100
	66 years and over	0	15	20	0	25	25	0	35	40	0	45	45
	Total	50	670	720	50	625	675	60	645	710	60	645	705

	2011/12			2012/13			2013/14			2014/15	
Female	Male	Total									
18%	82%	100%	19%	81%	100%	19%	81%	100%	19%	81%	100%
43%	57%	100%	43%	57%	100%	43%	57%	100%	44%	56%	100%
42%	58%	100%	42%	58%	100%	43%	57%	100%	43%	57%	100%
21%	79%	100%	21%	79%	100%	22%	78%	100%	22%	78%	100%
43%	57%	100%	43%	57%	100%	43%	57%	100%	44%	56%	100%
43%	57%	100%	43%	57%	100%	42%	58%	100%	43%	57%	100%
18%	82%	100%	21%	79%	100%	20%	80%	100%	20%	80%	100%
45%	55%	100%	45%	55%	100%	44%	56%	100%	45%	55%	100%
45%	55%	100%	44%	56%	100%	44%	56%	100%	44%	56%	100%
19%	81%	100%	20%	80%	100%	20%	80%	100%	21%	79%	100%
43%	57%	100%	43%	57%	100%	43%	57%	100%	44%	56%	100%
42%	58%	100%	43%	57%	100%	43%	57%	100%	43%	57%	100%

		2011/12			2012/13			2013/14			2014/15	
Fema	ile	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
	7%	93%	100%	7%	93%	100%	9%	91%	100%	9%	91%	100%
2	23%	77%	100%	23%	77%	100%	23%	77%	100%	23%	77%	100%
2	21%	79%	100%	23%	77%	100%	23%	77%	100%	23%	77%	100%
4	10%	60%	100%	45%	55%	100%	37%	63%	100%	31%	69%	100%
3	33%	67%	100%	~	~	~	~	~	~	~	~	~
1	19%	81%	100%	20%	80%	100%	20%	80%	100%	21%	79%	100%

	2011/12			2012/13			2013/14			2014/15	
Female	Male	Total									
21%	79%	100%	22%	78%	100%	23%	77%	100%	24%	76%	100%
45%	55%	100%	45%	55%	100%	45%	55%	100%	46%	54%	100%
47%	53%	100%	47%	53%	100%	46%	54%	100%	46%	54%	100%
44%	56%	100%	44%	56%	100%	46%	54%	100%	46%	54%	100%
48%	52%	100%	~	~	~	~	~	~	~	~	~
43%	57%	100%	43%	57%	100%	43%	57%	100%	44%	56%	100%
42%	58%	100%	43%	57%	100%	43%	57%	100%	43%	57%	100%

	2011/12			2012/13			2013/14			2014/15	
Female	Male	Total									
*	*	*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*	*	*
*	*	*	*		*	100%	0%	100%	0%	100%	100%
15%	85%	100%	8%	92%	100%	8%	92%	100%	0%	100%	100%
13%	87%	100%	15%	85%	100%	12%	88%	100%	15%	85%	100%
8%	92%	100%	11%	89%	100%	17%	83%	100%	13%	87%	100%
7%	93%	100%	6%	94%	100%	8%	92%	100%	10%	90%	100%
5%	95%	100%	8%	92%	100%	10%	90%	100%	9%	91%	100%
6%	94%	100%	5%	95%	100%	5%	95%	100%	6%	94%	100%
7%	93%	100%	6%	94%	100%	5%	95%	100%	5%	95%	100%
8%	92%	100%	6%	94%	100%	6%	94%	100%	5%	95%	100%
7%	93%	100%	7%	93%	100%	9%	91%	100%	9%	91%	100%

Type of Academic	Age-band		2011/12			2012/13			2013/14			2014/15	
Contract		Female	Male	Total									
Senior	20 years and under	0	0	0	0	0	0	0	0	5	5	0	5
lecturers/lecturers	21 to 25 years	5	10	15	15	35	55	25	50	75	30	60	85
	26 to 30 years	30	110	135	40	130	170	50	125	175	55	120	175
	31 to 35 years	80	265	345	85	285	370	100	330	430	95	365	460
	36 to 40 years	75	275	350	90	290	380	105	315	425	110	310	420
	41 to 45 years	65	215	280	55	220	275	55	230	285	75	250	320
	46 to 50 years	40	180	220	55	195	250	50	195	250	55	210	265
	51 to 55 years	40	125	165	45	150	195	40	160	200	40	150	195
	56 to 60 years	35	85	120	35	120	155	35	110	145	35	125	160
	61 to 65 years	20	70	90	20	80	100	20	75	95	15	70	85
	66 years and over	5	30	35	10	40	45	10	50	55	5	45	55
	Total	395	1365	1760	450	1545	1995	490	1645	2135	520	1700	2220

Type of Academic	Age-band		2011/12			2012/13			2013/14			2014/15	
Contract		Female	Male	Total									
Researchers	20 years and under	0	0	0	0	0	0	0	0	0	0	0	0
	21 to 25 years	5	20	25	5	25	35	10	35	40	10	30	40
	26 to 30 years	60	250	310	75	270	345	85	290	370	80	290	370
	31 to 35 years	45	170	215	55	185	240	60	220	280	60	225	285
	36 to 40 years	15	60	70	20	60	80	20	55	70	15	55	70
	41 to 45 years	5	25	35	10	25	35	10	25	35	5	25	30
	46 to 50 years	5	15	15	5	20	25	5	20	25	10	10	20
	51 to 55 years	5	5	10	5	5	10	5	5	10	5	10	15
	56 to 60 years	0	5	5	5	5	10	5	5	10	5	5	10
	61 to 65 years	0	5	5	0	5	5	0	10	10	0	5	10
	66 years and over	0	0	5	0	0	0	0	0	0	0	0	0
	Total	145	550	695	185	605	790	195	660	855	195	660	850
	-												
Grand Total		630	2,655	3,285	690	2,780	3,470	750	2,955	3,705	780	3,015	3,795

	2011/12			2012/13			2013/14			2014/15	
Female	Male	Total									
34%	66%	100%	33%	67%	100%	33%	67%	100%	64%	36%	100%
30%	70%	100%	30%	70%	100%	30%	70%	100%	32%	68%	100%
21%	79%	100%	23%	77%	100%	28%	72%	100%	33%	67%	100%
23%	77%	100%	23%	77%	100%	23%	77%	100%	21%	79%	100%
22%	78%	100%	24%	76%	100%	25%	75%	100%	26%	74%	100%
23%	77%	100%	20%	80%	100%	19%	81%	100%	23%	77%	100%
18%	82%	100%	21%	79%	100%	21%	79%	100%	20%	80%	100%
23%	77%	100%	23%	77%	100%	19%	81%	100%	22%	78%	100%
28%	72%	100%	24%	76%	100%	24%	76%	100%	22%	78%	100%
23%	77%	100%	21%	79%	100%	22%	78%	100%	20%	80%	100%
19%	81%	100%	19%	81%	100%	14%	86%	100%	13%	87%	100%
23%	77%	100%	23%	77%	100%	23%	77%	100%	23%	77%	100%

	2011/12			2012/13			2013/14			2014/15	
Female	Male	Total									
10%	90%	100%	28%	72%	100%	0%	100%	100%	99%	1%	100%
27%	73%	100%	22%	78%	100%	19%	81%	100%	23%	77%	100%
20%	80%	100%	22%	78%	100%	22%	78%	100%	21%	79%	100%
21%	79%	100%	24%	76%	100%	21%	79%	100%	22%	78%	100%
20%	80%	100%	24%	76%	100%	25%	75%	100%	23%	77%	100%
22%	78%	100%	28%	72%	100%	30%	70%	100%	23%	77%	100%
20%	80%	100%	19%	81%	100%	27%	73%	100%	44%	56%	100%
49%	51%	100%	38%	62%	100%	36%	64%	100%	36%	64%	100%
25%	75%	100%	53%	47%	100%	62%	38%	100%	45%	55%	100%
0%	100%	100%	29%	71%	100%	16%	84%	100%	9%	91%	100%
34%	66%	100%	38%	62%	100%	0%	100%	100%	0%	100%	100%
21%	79%	100%	23%	77%	100%	23%	77%	100%	23%	77%	100%
19%	81%	100%	20%	80%	100%	20%	80%	100%	21%	79%	100%

Note: "\*" indicates where a percentage can not be calculated due to a denominator value of 0.

\*Type of academic contract figures have been calculated using a different methodology for 2011/12 compared with all other years included in the tables. Please see the guidance notes sheet for more information.

Average age of academic staff in permanent roles (professors, senior lecturers/lecturers, researchers, and other) in the mathematics cost centre, by gender, 2011/12 to 2014/15 & Average age of all academic staff in permanent roles, by gender, 2011/12 to 2014/15.

Source: HESA Staff Record 2011/12, 2012/13, 2013/14, 2014/15

Average age of mathematics cost centre permanent academic staff by staff grade and gender (including totals), 2011/12 to 2014/15.

		2011/12			2012/13			2013/14			2014/15	
Staff Grade	Female	Male	Total									
Professor	50.5	52.2	52	49.6	52.5	52.2	49.4	52.6	52.3	50.4	53	52.7
Senior lecturers/ lecturers	43.5	43.2	43.2	43.2	43.5	43.5	42.0	43.1	42.9	41.6	43.2	42.9
Researchers	37.2	37.8	37.6	37.7	37.3	37.4	37.7	36.0	36.4	37.0	35.3	35.7
Other grades						41.5	••					
			-			-			-			
Total	43.8	46	45.6	43.6	45.9	45.5	42.7	45.6	45.0	42.4	45.7	45.1

Note: ".." indicates where a value has been supressed.

Please see the guidance notes sheet for more information.

Average age of permanent academic staff by cost centre marker and gender (including totals), 2011/12 to 2014/15.

		2011/12			2012/13			2013/14	2014/15			
Cost Centre	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
Mathematics	43.8	46.0	45.6	43.6	45.9	45.5	42.7	45.6	45.0	42.4	45.7	45.1
Other	45.1	47.0	46.2	45.3	47.1	46.3	45.4	47.1	46.3	45.4	47.1	46.4
			•									
Total	45.1	47.0	46.2	45.3	47.1	46.3	45.3	47.0	46.3	45.3	47.1	46.3

Note: ".." indicates where a value has been supressed.

Please see the guidance notes sheet for more information.

# **Explanatory Notes**

#### **Table Title**

#### Notes

type of academic contract (academic employment gender, 2011/12 and 2014/15.

HE academic staff by cost centre, Type of academic contract figures have been calculated using different methodologies for the year 2011/12 compared with all other years included in the tables due to a fundamental change to academic employment classifications commencing 2012/13. As of 2012/13, the classification of 'Professor' indicates a member of staff holding a contract which aligns with the Universities and Colleges Employers Association (UCEA) contract level 5A 'Professor'. This level indicates a senior function/professor marker)\*, and academic appointment which may carry the title of Professor but which does not have departmental line management responsibilities.

> Further guidance on the levels to which contracts can be aligned may be found at www.hesa.ac.uk/13025/a/LEVELS. Professorial status is not available for non-academic atypical staff.

Prior to 2012/13, 'Professor' was a term associated with those returned in the HESA Staff record as holding a contract for a professorial role, and as such the data is not directly comparable across years.

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HE academic staff in the of academic contract(academic employment function/professorship marker), age-band and gender, 2011/12 and 2014/15.

2011/12 Methodology: staff with the contract level classification of either 'teaching' or 'teaching and research' are counted as 'senior lecturers/lecturers'. 'Research only' contract level staff are here counted as 'researchers', and 'not teaching and/or research' staff are here labelled as 'other grades'. The figures for mathematics cost centre, by type all 'senior lecturers', 'researchers', 'other grades', and 'not applicable/not required (default code)' have been filtered to exclude professors using the professor marker indicator. Counts for these classifications include staff with the 'not a professor' and 'N/A (atypical staff)' markers. Counts for the 'Professor' classification in this table have been calculated using the 'professor' class in the professor marker. Please note that staff given the 'professor' class in the professor marker indicator are also given a contract level classification - these professors have been excluded from other academic contract categories in the above table in order to produce the 'professor' category shown here; therefore, double counting has been avoided.

> 2012/13 - 2014/15 Methodology: The Professor marker indicator is not applicable to the years from 2012/13 onwards so can therefore not be used to calculate the value for the professor category. The professor marker has thus been replaced by the contract level indicator in the 2012/13, 2013/14, and 2014/15 methodology. Those staff classed as having the contract level of 'F1 Professor' constitute the 'Professors' category in these tables. These Professors have then been excluded from the staff count, with the remaining staff being classified in the table using the academic employment function indicator with the same methodology as in 2011/12 i.e. staff with the 'only research' academic employment function are here classified as 'researchers' etc.

Please note that the 'other grades' and 'not applicable/not required (default code)' categories have been excluded for reasons of suppression from the table entitled HE academic staff in the mathematics cost centre, by type of academic contract(academic employment function/professorship marker), age-band and gender, 2011/12 and 2014/15.

centre permanent academic staff by staff grade and gender (including totals), 2011/12 to 2014/15.

Average age of mathematics cost Average age calculations have be calculated on the FPE permanent academic staff with a known age. Atypical staff have been excluded.

Staff grades are defined using the professorial marker/ contract levels and academic employment function fields as follows:

Professors as indicated from the professorial marker/contract levels fields are classified as "professors" Teaching and research academic employment function are classified as "senior lecturers/lecturers" Teaching only academic employment function are classified as "senior lecturers/lecturers" Research only academic employment function are classified as "researchers" Neither teaching nor research academic employment function are classified as "other grades"

Average age of permanent academic staff by cost centre marker and gender (including totals), 2011/12 to 2014/15.

Average age calculations have be calculated on the FPE permanent academic staff with a known age. Atypical staff have been excluded.

# Suppression rules for HESA data

Counts Counts of student instances (and apportioned subject-level data) and staff are rounded to the nearest multiple of 5. Halves are always rounded upwards.

For example 0, 1, 2 are rounded to 0, 3 is represented as 5, 22 is represented as 20, 3286 is represented as 3285 while 0, 20, 55, 3510 remain unchanged.

This rounding strategy is also applied to total figures, so the sum of numbers in each row or column may not match the total shown.

**Percentages** Percentages are calculated from un-rounded raw numbers.

**Averages** Averages based on 7 or fewer individuals are suppressed