Department Application

Bronze and Silver Award

ATHENA SWAN BRONZE DEPARTMENT AWARDS

Recognise that in addition to institution-wide policies, the department is working to promote gender equality and to identify and address challenges particular to the department and discipline.

ATHENA SWAN SILVER DEPARTMENT AWARDS

In addition to the future planning required for Bronze department recognition, Silver department awards recognise that the department has taken action in response to previously identified challenges and can demonstrate the impact of the actions implemented.

Note: Not all institutions use the term 'department'. There are many equivalent academic groupings with different names, sizes and compositions. The definition of a 'department' can be found in the Athena SWAN awards handbook.

COMPLETING THE FORM

DO NOT ATTEMPT TO COMPLETE THIS APPLICATION FORM WITHOUT READING THE ATHENA SWAN AWARDS HANDBOOK.

This form should be used for applications for Bronze and Silver department awards.

You should complete each section of the application applicable to the award level you are applying for.

> Additional areas for Silver applications are highlighted throughout the form: 5.2, 5.4, 5.5(iv)

If you need to insert a landscape page in your application, please copy and paste the template page at the end of the document, as per the instructions on that page. Please do not insert any section breaks as to do so will disrupt the page numbers.

WORD COUNT

The overall word limit for applications are shown in the following table.

There are no specific word limits for the individual sections and you may distribute words over each of the sections as appropriate. At the end of every section, please state how many words you have used in that section.

We have provided the following recommendations as a guide.

Department application	Bronze	Silver
Word limit	**10,500**	**12,000**
Recommended word count		
1.Letter of endorsement	500	500
2.Description of the department	500	500
3. Self-assessment process	1,000	1,000
4. Picture of the department	2,000	2,000
5. Supporting and advancing women's careers	6,000	6,500
6. Case studies	n/a	1,000
7. Further information	500	500

Name of institution	Lancaster University
Department	Mathematics and Statistics
Focus of department	**STEMM**
Date of application	November 2016
Award Level	**Bronze**
Institution Athena SWAN award	**Date: 2008 (renewed 2014)** **Level: Bronze**
Contact for application Must be based in the department	Dr Nadia Mazza
Email	n.mazza@lancaster.ac.uk
Telephone	+44 (0)1524 593961
Departmental website	http://www.lancaster.ac.uk/maths/

1. LETTER OF ENDORSEMENT FROM THE HEAD OF DEPARTMENT

Mathematics and Statistics | Lancaster University

Dear Athena Swan Manager,

This Athena Swan Bronze Award application has my strongest support. The application is a result of many man- and woman-hours of hard work undertaken over the past two years; it contains an honest, true and accurate representation of our department, its structures and practices relevant to the issues of gender balance, and promoting women's careers in academia. Many of the actions developed here, e.g. the change in the composition of the promotions committee or the allocation of a specific fund to staff returning from maternity, will undoubtedly make a lasting effect.

The department's management team and I strive to ensure equality, diversity and fairness within the department; one of the important tools for implementing this is a transparent workload model allocating a number of points to staff members for each activity. All members of the SAT get credit for their contribution to the Athena SWAN application process and their ongoing contribution.

The department has experienced dramatic growth recently; with over 50 permanent academic staff it is now among the largest departments in the university. We aspire to be a leading centre in the UK in teaching and research, and we consistently make the top ten UK departments in mathematical sciences in national league tables; our research strength is underscored by placing joint fifth in REF2014.

In order to build on our success in the increasingly more competitive environment, it is essential that we appoint the best people, regardless of their gender, and support them at all stages of their career. Thus, adhering to the principles of the Athena SWAN Charter is entirely consistent with our strategic objectives as well as our moral values.

Mathematical sciences traditionally suffer from underrepresentation of female academics. This is true worldwide, and Lancaster is no exception. There are no female professors in the department, and the recent round of appointments did not improve the gender balance. The percentage of female academics is now slightly below the national average. There have been some successes, for example the intake and completion rates of postgraduate female students are above average. This largely is due to excellent practices of STOR-i, the CDT that the department houses; one of our objectives is to extend these to the rest of the department (where applicable).

Having had experience working in other mathematics departments in the UK and abroad, I believe that the collegiate and friendly atmosphere is a distinctive feature of this department, not to be taken for granted; the view shared by the majority of my colleagues according to the surveys undertaken.

Nevertheless, it is clear that, particularly with the ongoing expansion of the department, a more systematic way forward is required to tackle gender imbalance and related issues that certainly exist. I have been an active participant of the present submission and as a HoD, I will ensure that the action plan is delivered, making the department more inclusive, family-friendly and fair and supporting career advancement of staff of all gender identities.

Yours sincerely,

Andrey Lazarev

[500 words]

NOTE: This application has been edited to remove personal data relating to identifiable individuals, including the removal or obscuring of some statistics relating to very small numbers of staff (< 5).

2. DESCRIPTION OF THE DEPARTMENT

The department is a leading centre for research in the UK. Unusually for a UK maths department, it comprises only two groups: Pure Mathematics and Statistics. There is a strong research ethos in the department, with a large number of seminars and substantial research grant income. With very few exceptions, all permanent staff are expected to carry out both research and teaching duties.

The staff of the department comprises 63 academics (25% female - national benchmark 23%) and 13 support staff (76% female). Of the academics, 1 early career lecturer, 15 researchers and 1 professor are on fixed term contracts (5 of these 15 researchers are female, all others male); the remaining academic staff are on indefinite contracts.

The academic staff of the department are comparatively young, with an average age of 38. The average age for Professors is approximately 51 (all males), Senior Lecturers 49 (female 44/male 51), Lecturers Grade 8 40 (female 39/male 40), Lecturers Grade 7 33 (both genders), Senior Research Associates 33 (both genders), Research Associates 28 (female 30/male 26) and Teaching Associates 39. A majority of staff have joined the department in the last five to ten years, during a period of rapid expansion.

In 2016/17, the department administers 16 undergraduate degree programmes (including admissions, progression and degree awarding decisions).

Our 526 undergraduate students (31% female) take an active role in the department. We have Student Representatives elected by their cohort who attend the Staff-Student Consultative Committee, departmental meetings and Open Days for Admissions. Other Student Representatives sit on the E&D Committee (currently 2 females and 1 male). All student representatives act as a link between staff and students.

Students in the department have access to multiple levels of pastoral care over and above the University's provision, including the administrative team and academic personal tutors. This is backed up with close monitoring of student attendance to ensure early detection of potential problems. The students also organise a weekly "Maths Club", in which third year students assist the learning of first years.

We also have a large postgraduate community, with 65 postgraduate research students (43% female), and 67 taught postgraduate students (43% female). A major public-facing activity of the department is the EPSRC-funded STOR-i Centre for Doctoral Training, admitting 10 to 12 students each year to a 1+3 year PhD programme in industrially-inspired statistics and operations research. The majority of projects are part-funded and co-supervised by an industrial partner, to ensure both relevance of the research and training in non-academic skills.

The department's outreach and schools' liaison officers engage with local schools to help enthuse students about university level mathematics and improve recruitment, and they run several activities on campus. Thus 93% of our undergraduate intake is from state schools.

A strong feature of the department's management is its explicit and public workload model. By balancing workload points within each year (pro rata for part-time staff), and being publicly seen to do so, the Head of Department tries to ensure that no individual is, or feels, overburdened with duties. From our survey, it is clear that the clarity is

valued and appreciated by the majority of staff. Thus a designated team will revise the workload model to ensure fairness for all and absence of bias [action 5.6(v)].

[539 words]

3. THE SELF-ASSESSMENT PROCESS

Table SAT below describes the composition of our SAT members.

Table SAT: Members on the SAT November 2016. Unless otherwise specified, members are working or studying full-time.

Name	Gender	Work-life balance	Role in the department	Role in the SAT
Ayesha Ali	female		First year PhD student in Statistics Representative in the department for three years	Liaise with the postgraduate students Promote diversity in student's recruitment Help investigate students' issues and find solutions to them
Alexander Belton	male		Senior Lecturer in Pure Mathematics (research interests in analysis) Former Head of Undergraduate Admissions Future Head of Department (August 2017)	Concentrated on issues around admissions and progression.
Jennifer Creevy	female		3rd year Bachelors Student of Natural Sciences	Liaise with the student body Help investigate students' issues and find solutions to them
Emma Eastoe	female		Lecturer in Statistics (research interests in extreme value analysis and environmental statistics)	Concentrated on issues relating to flexible working and career breaks.

Jan Grabowski	male		Lecturer in Pure Mathematics (research interests in algebra) Responsibility for the department website Former Outreach officer	Responsible for examining organisational issues and culture
Andrey Lazarev	male		Professor of Pure Mathematics Head of Department for two and a half years.	Focused on issues concerning recruitment, promotion, induction and appraisal, training, workload allocation and grant applications.
Nadia Mazza	female		Senior Lecturer in Pure Mathematics Department representative for the London Mathematical Society Good Practice Scheme and the University Athena SWAN committee Instigated the Florence Nightingale Day (Section 5.6 (viii))	Focused on students' issues, overseeing the whole application Chairs the E&D and SAT
Helen Shaw	female		Department Administrator Member of the department's Management Team. Line manager of the main support staff team in the department.	Collated the data required for this application and advised regarding university and departmental procedures in HR and other administrative matters.
Julia Tawn	female		Part II Coordinator in the department, responsible for administrating the second, third and fourth years of our undergraduate programmes	Represented the administrative staff of the department Focus on undergraduate students' issues, drawing from her experience

Matt Ward	male		4th year Masters Student of Theoretical Physics and Mathematics with option Study Abroad	Liaise with the student body Help investigate students' issues and find solutions to them

Account of the self-assessment process:

The SAT was set up in November 2014 and formally met at least once each term since then. We renamed the committee E&D (Equality and Diversity) in Autumn 2015 to discuss wider equality and diversity issues within the department. All E&D members join on a voluntary basis. Since its beginning, this selection process has been working well. The E&D comprises 1 professor (male), 2 senior lecturers (1 f. + 1 m.), 2 lecturers (1 f. + 1 m.), 2 professional staff (f), 1 postgraduate (f) and 2 undergraduates (1 f. + 1 m.), which is a fair representation of gender balance in our department. All academic staff members' participation is fairly credited in the department workload model, with additional points for the Chair. We are looking to complete our team with a research associate.

Our initial task was to draw a detailed description of our department and assess its health and sustainability. In addition to the figures provided by Human Resources and Planning Support Office, we needed to identify any issues related to the principles of the Athena SWAN Charter in our department.

We collected individual feedback from members of the department, via anonymous online surveys (1 for all staff and 1 for all students) in April 2015 and in October 2016, and by email circulated to all staff members by the Chair of the E&D. We flagged and discussed the problems emerging from these in our termly meetings, consulting with the university Equality, Diversity and Inclusion, and Athena SWAN committees, and worked out tangible actions whose aim is to tackle these problems.

From August 2016 onwards, our focus has been to analyse the student and staff data and devise plans for the short- and long-term future to improve our gender ratio, hence prepare our current Athena SWAN application.

We believe it is important to regularly monitor the gender balance of our department and assess the effect of our Athena SWAN actions and are committed to do so. Hence the E&D will continue to report to the departmental management committee (which meets monthly) and inform the wider department of the outcome of our termly meetings [action 3(a)], and will also liaise with the university's Equality, Diversity and Inclusion and Athena SWAN Committees [action 3(b)]. The Head of Department, member of the E&D, ensures the consistency and fit of the pursued policies with the wider strategic objectives of the department and the university.

[410 words]

4. A PICTURE OF THE DEPARTMENT

4.1. Student data

Undergraduate students take an active role in the department. In addition to Student Representatives on the E&D Committee, Student Representatives are elected by their cohort to act as a link between staff and students; they attend the Staff-Student Consultative Committee, the outcomes of which are circulated to all undergraduate students, departmental meetings and Open Days for Admissions.

The department has been congratulated by external examiners on an excellent range of modules and a high standard of teaching. It also places an emphasis on careers, with regular career talks organised for the students.

Postgraduate taught students form a large cohort, with 67 students (4 part-time) across five programmes. Each Masters student completes a dissertation under close supervision of an academic staff member.

Postgraduate research students organise their own seminars (called forums), in which speakers are generally our own students or staff. There is one student-run forum in pure mathematics and one in statistics (STOR-i). In the former 10% of talks (1/10) were given by female speakers in 2015/16, while in the latter women gave 45% of talks (13/29). We want to increase the ratio of female speakers in the pure maths students' forum, and therefore the students will be allocated up to £500 per year to invite at least 4 external women speakers per year [action 4.1 (i)(a)]. For the statistics forum, the PGR statistics tutor will advise students to keep the current gender ratio for speakers [action 4.1 (i)(b)] .

From our survey of the undergraduate and postgraduate students, 68% feel the department promotes equality and diversity, while 32% are neutral. However, some students feel women are under-represented, especially at PGR level. This suggests a need to increase the visibility of female role models, and therefore we plan to organise an LMS Women in Maths Day, hopefully by 2020 [action 4.1 (ii)], and an LMS Summer School between 2018-2020 [action 4.1 (iii)]. The aforementioned additional funding for postgraduate forums [action 4.1 (i)(a)] also aims at highlighting women in mathematics. We will assess the impact of our efforts over the following 2-3 years, and if encouraging, we will organise similar activities to [actions 4.1 (ii) and (iii)] again.

(i) Numbers of men and women on access or foundation courses

N/A

(ii) Numbers of undergraduate students by gender

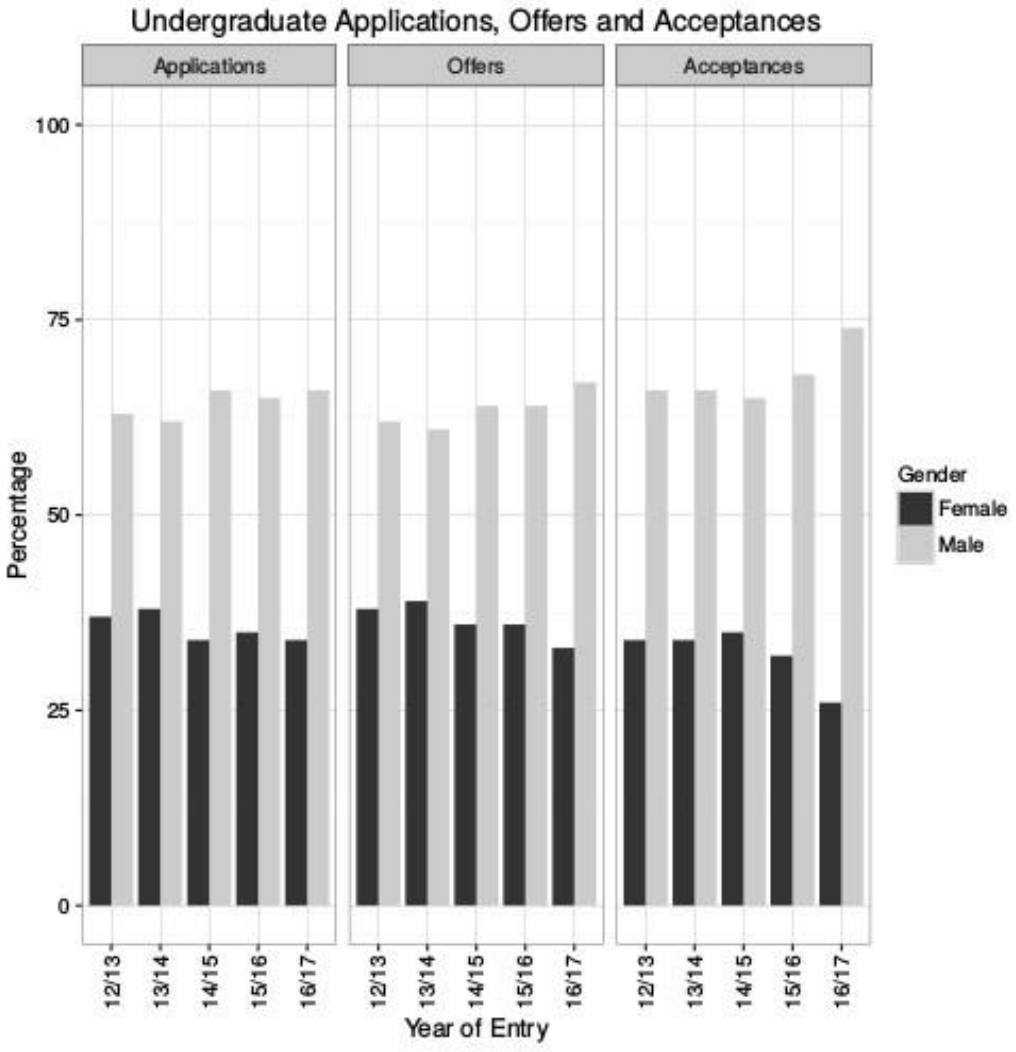
Table 1: undergraduate student population by programme, mode of study and gender

Programme	*Mode of study*	*Female (num)*	*Female (%)*	*Male (num)*	*Male (%)*
Academic year 2012-13					
BA Hons Mathematics and Philosophy	*FT*	*4*	*50*	*4*	*50*
BSc Hons Biomedicine and Medical Statistics	*FT*	*0*	*0*	*1*	*100*
BSc Hons Computer Science and Mathematics	*FT*	*1*	*25*	*3*	*75*
BSc Hons Environmental Mathematics	*FT*	*4*	*100*	*0*	*0*
BSc Hons Financial Mathematics	*FT*	*13*	*39*	*20*	*61*
BSc Hons Management Mathematics	*FT*	*2*	*50*	*2*	*50*
BSc Hons Mathematics	*FT*	*32*	*48*	*35*	*52*
	PT	*0*	*0*	*1*	*100*
BSc Hons Mathematics with Statistics	*FT*	*3*	*50*	*3*	*50*
BSc Hons Psychology and Statistics	*FT*	*3*	*75*	*1*	*25*
BSc Hons Statistics	*FT*	*0*		*0*	
MSci Hons Mathematics	*FT*	*92*	*38*	*152*	*62*
MSci Hons Mathematics (Study Abroad)	*FT*	*15*	*32*	*32*	*68*
MSci Hons Mathematics with Statistics	*FT*	*8*	*36*	*14*	*64*
MSci Hons Mathematics with Statistics (Study Abroad)	*FT*	*3*	*75*	*1*	*25*
MSci Hons Statistics	*FT*	*1*	*33*	*2*	*67*
	Total	***181***	***40***	***271***	***60***
	National benchmark		***39***		***61***
Academic year 2013-14					
BA Hons Mathematics and Philosophy	*FT*	*1*	*25*	*3*	*75*
BSc Hons Computer Science and Mathematics	*FT*	*1*	*17*	*5*	*83*
BSc Hons Environmental Mathematics	*FT*	*3*	*100*	*0*	*0*
BSc Hons Financial Mathematics	*FT*	*17*	*40*	*25*	*60*

Programme	***Mode of study***	***Female (num)***	***Female (%)***	***Male (num)***	***Male (%)***
BSc Hons Mathematics	*FT*	*36*	*47*	*40*	*53*
BSc Hons Mathematics with Statistics	*FT*	*9*	*69*	*4*	*31*
BSc Hons Psychology and Statistics	*FT*	*3*	*75*	*1*	*25*
BSc Hons Statistics	*FT*	*1*	*100*	*0*	*0*
MSci Hons Mathematics	*FT*	*85*	*31*	*192*	*69*
MSci Hons Mathematics (Study Abroad)	*FT*	*17*	*38*	*28*	*62*
MSci Hons Mathematics with Statistics	*FT*	*8*	*30*	*19*	*70*
MSci Hons Mathematics with Statistics (Study Abroad)	*FT*	*6*	*100*	*0*	*0*
MSci Hons Statistics	*FT*	*1*	*50*	*1*	*50*
MSci Hons Statistics (Study Abroad)	*FT*	*0*	*0*	*1*	*100*
	Total	***188***	***37***	***319***	***63***
	National benchmark		***40***		***60***
Academic year 2014-15					
BA Hons Mathematics and Philosophy	*FT*	*2*	*25*	*6*	*75*
BSc Hons Computer Science and Mathematics	*FT*	*1*	*14*	*6*	*86*
BSc Hons Financial Mathematics	*FT*	*13*	*36*	*23*	*64*
BSc Hons Mathematics	*FT*	*30*	*34*	*59*	*66*
	PT	*1*	*100*	*0*	*0*
BSc Hons Mathematics with Statistics	*FT*	*5*	*45*	*6*	*55*
BSc Hons Psychology and Statistics	*FT*	*1*	*100*	*0*	*0*
MSci Hons Computer Science and Mathematics	*FT*	*0*	*0*	*2*	*100*
MSci Hons Mathematics	*FT*	*81*	*29*	*194*	*71*
	PT	*1*	*100*	*0*	*0*
MSci Hons Mathematics (Study Abroad)	*FT*	*18*	*37*	*31*	*63*

Programme	*Mode of study*	*Female (num)*	*Female (%)*	*Male (num)*	*Male (%)*
MSci Hons Mathematics with Statistics	*FT*	*11*	*38*	*18*	*62*
MSci Hons Mathematics with Statistics (Study Abroad)	*FT*	*3*	*43*	*4*	*57*
MSci Hons Statistics	*FT*	*2*	*33*	*4*	*67*
	Total	***169***	***32***	***353***	***68***
	National benchmark		***39***		***61***
Academic year 2015-16					
BA Hons Mathematics and Philosophy	*FT*	*3*	*27*	*8*	*73*
BSc Hons Computer Science and Mathematics	*FT*	*2*	*25*	*6*	*75*
BSc Hons Environmental Mathematics	*FT*	*1*	*100*	*0*	*0*
BSc Hons Financial Mathematics	*FT*	*11*	*34*	*21*	*66*
BSc Hons Financial Mathematics (Industry)	*FT*	*0*	*0*	*1*	*100*
BSc Hons Mathematics	*FT*	*51*	*32*	*108*	*68*
BSc Hons Mathematics with Statistics	*FT*	*15*	*54*	*13*	*46*
BSc Hons Statistics	*FT*	*2*	*50*	*2*	*50*
MSci Hons Computer Science and Mathematics	*FT*	*2*	*40*	*3*	*60*
MSci Hons Financial Mathematics	*FT*	*1*	*50*	*1*	*50*
MSci Hons Mathematics	*FT*	*50*	*25*	*151*	*75*
MSci Hons Mathematics (Study Abroad)	*FT*	*18*	*37*	*31*	*63*
MSci Hons Mathematics with Statistics	*FT*	*4*	*27*	*11*	*73*
MSci Hons Mathematics with Statistics (Study Abroad)	*FT*	*2*	*29*	*5*	*71*
MSci Hons Statistics	*FT*	*1*	*50*	*1*	*50*
MSci Hons Statistics (Study Abroad)	*FT*	*0*	*0*	*1*	*100*
	Total	***163***	***31***	***363***	***69***

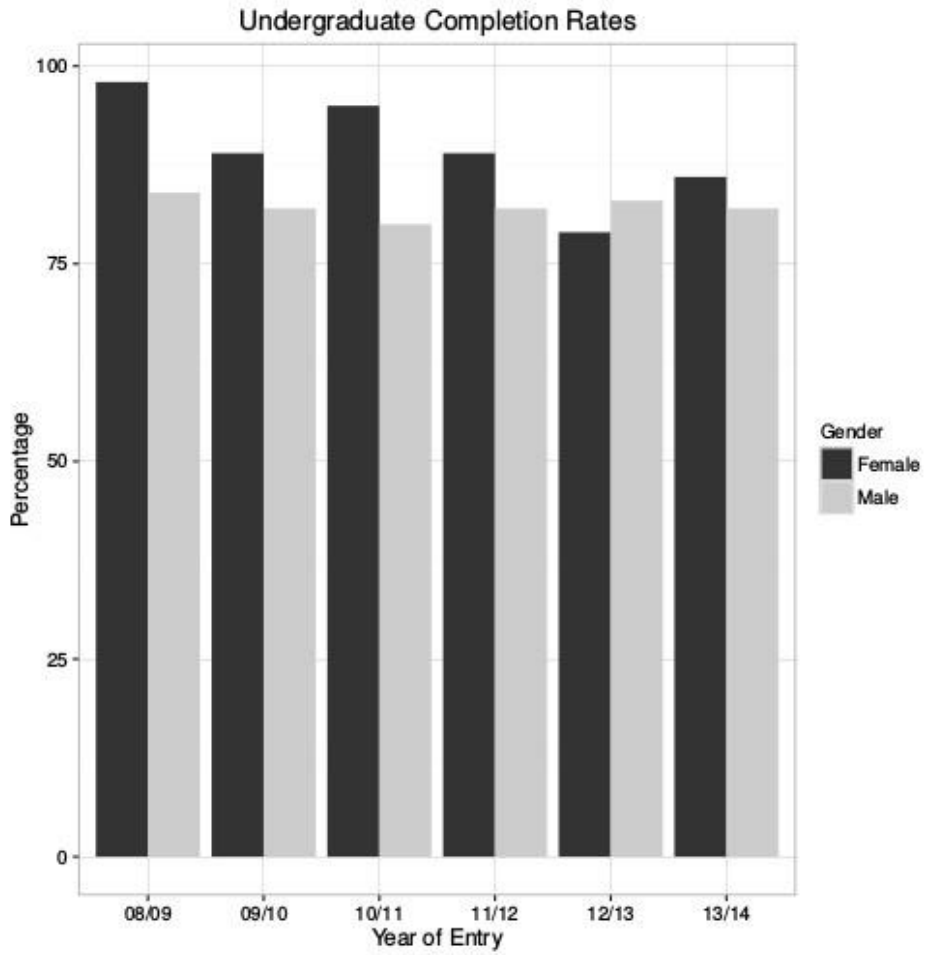
Figure 1: chart summarising the Admission profile of our department over the last 5 academic years.



We note a worrying trend in our undergraduate population: whilst the total number of students has increased from 452 (2012/13) to 526 (2015/16), the number of female students has decreased from 181 (40%) to 163 (31%). The national benchmark for the undergraduate student population has been stable at around 40% (full-time) over this period. A similar trend occurs at admissions level, with a dip in both the proportion of applicants and the proportion of acceptances who are female: from 37% applicants and 34% acceptances (2012/13), down to 34% applicants and 26% acceptances (2016/17); this is in part because the proportion of female applicants who accept remained stable (14% in 2012/13; 16% in 2016/17), but for males this increased (16% in 2012/13; 22% in 2016/17). We suspect the main cause for this change is the increase of our entry requirement tariff (from AAB to AAA; we do not require Further Mathematics) in 2011/12 impacting more on female potential applicants', who may make more critical self-assessment of their own ability. The department is exploring the use of unconditional offers to help address this [action 4.1(iv)]. In addition, we will [action 4.1 (v)] increase our engagement with local schools by coordinating with them activities at which our Schools liaison officer travels with student volunteers to their former schools to talk about their successful story studying maths at Lancaster. We will [actions 4.1 (vi)

and (vii)] add to our website case studies of successful female undergraduates, with a range of pre-university experiences, and also emphasise through the website that we are a safe campus-based university. Alongside these actions, we will analyse attendance data from Open Days, comparing gender ratios at Open Days with those of Admissions [action 4.1 (viii)].

Figure 2: chart summarising our undergraduates' completion rates.



Our completion rates (Figure 2) are very good, with female students slightly more likely to complete their degree than males: female completion rate vary between 94-98% and male completion rates between 93-95%. The degree attainment (Table 2) of our students show that our female students perform in a tighter distribution than males, with a predominance of upper second class degrees and very few thirds. Male students tend to show a noticeable tail of thirds. To improve degree attainment and in particular to decrease the proportion of low performing male students, the Head of Undergraduate Teaching will instruct all academic advisors to provide more sustained support to their tutees, and especially to encourage their female tutees to aim for first class degrees [action 4.1(x)].

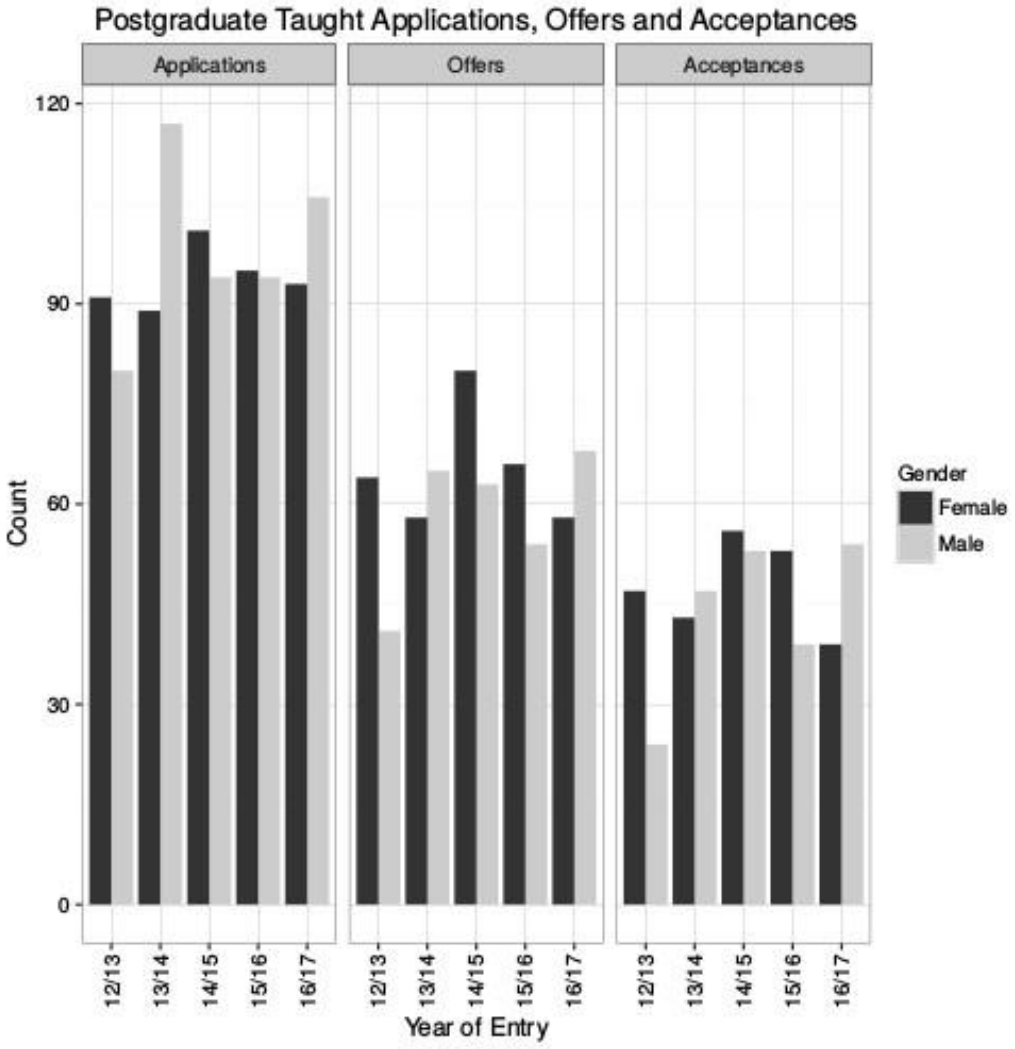
Table 2: Degree attainment of our undergraduate students

Year award	Degree	F tot	% F		M tot	% M
2011/12						

	first	18	35.3		17	36.2
	upper second	17	33.3		10	21.3
	lower second	13	25.5		14	29.8
	third	3	5.9		6	12.8
	Total	**51**			**47**	
2012/13						
	first	13	31.7		17	29.3
	upper second	14	34.1		22	37.9
	lower second	13	31.7		15	25.9
	third	1	2.4		4	6.9
	Total	**41**			**58**	
2013/14						
	first	18	27.7		23	39.7
	upper second	36	55.4		20	34.5
	lower second	10	15.4		12	20.7
	third	1	1.5		4	6.9
	Total	**65**			**58**	
2014/15						
	first	16	32.0		34	36.2
	upper second	20	40.0		33	35.1
	lower second	13	26.0		22	23.4
	third	1	2.0		5	5.3
	Total	**50**			**94**	
2015/16						
	first	16	32.7		27	27.8
	upper second	17	34.7		31	32.0
	lower second	16	32.7		28	28.9
	third	0	0.0		11	11.3
	Total	**49**			**97**	

(iii) Numbers of men and women on postgraduate taught degrees

Figure 3: chart summarising our postgraduate admission numbers by gender (headcount).



Comparing gender-wise the fluctuations from applications to acceptances, we see (Figure 3) a notable drop in this year's percentage of females who carry through from application to acceptance (56% in 2015/16; 42% in 2016/17); this rate has increased for male students (41% in 2015/16; 51% in 2016/17). Consequently, the gender balance of PGT acceptances swung from 58% female, 42% male in 2015/16 to 42% female, 58% male in 2016/17. For completeness, Table 3 details the number of PGT students effectively starting ta programme at Lancaster. It is not clear whether this year's PGT admissions data is a trend or year-on-year variation; in recent years only 2013/14, with 48% of female and 40% of male applicants accepted, had a higher male than female acceptance rate (48% F to 52% M). Two facts may explain recent changes. Firstly, many of the students

applied to the MSc in Data Science (established 2014/15), which, from 2015/16, was administered by the Data Science Institute (DSI), rather than the department of Mathematics and Statistics. We are not aware what policy the DSI has regarding gender equality and recruitment. Therefore step one is to engage with the DSI to analyse and compare enrolment data and strategies [action 4.1 (ix)]. Secondly, the gender balance of recruitment onto the STOR-i MRes has changed in recent years; moving from a 7F/5M split in 2013/14 to a 3F/7M split in 2015/16. To actively encourage more female applicants, the Head of Teaching will instruct academic advisors of UGs to strongly encourage their skilled female tutees to pursue postgraduate mathematical studies [action 4.1 (x)]. We will also improve our website with more examples of female role models and an emphasis on our female-friendly department [action 4.1 (xi)]. In addition, we will monitor data from this year's PG Open days and try to gather feedback from female drop-outs on their reasons not to come to Lancaster [action 4.1 (xii)].

Table 3: Effective number of postgraduate taught students starting a programme since 2013-14

Programme		**F**	**% F**	**M**	**% M**
Academic year 2013-14					
MRes Statistics and Operational Research (STOR-i)	FT	7	58%	5	42%
MSc Quantitative Methods for Science, Social Science and Medicine	FT	2	67%	1	33%
	PT	1	33%	2	67%
MSc Statistics	FT	11	46%	13	54%
	PT	1	50%	1	50%
	Total	**23**	**50%**	**23**	**50%**
Academic year 2014-15					
MRes Statistics and Operational Research (STOR-i)	FT	5	45%	6	55%
MSc Quantitative Methods for Science, Social Science and Medicine	FT	1	33%	2	67%
MSc Statistics	FT	16	53%	14	47%
PGCert Quantitative Methods for Science, Social Science and Medicine	PT	0	0%	2	100%
	Total	**26**	**51%**	**25**	**49%**

Academic year 2015-16					
MRes Statistics and Operational Research (STOR-i)	FT	3	30%	7	70%
MSc Quantitative Methods for Science, Social Science and Medicine	FT	2	25%	2	50%
	PT	0	0%	4	100%
MSc Statistics	FT	27	39%	20	61%
PGDip Statistics	FT	0	0%	1	100%
PGDip Quantitative Methods for Science, Social Science and Medicine	FT	1	100%	0	0%
	Total	**33**	**43%**	**34**	**57%**

Figure 4: chart summarising our completion rates.

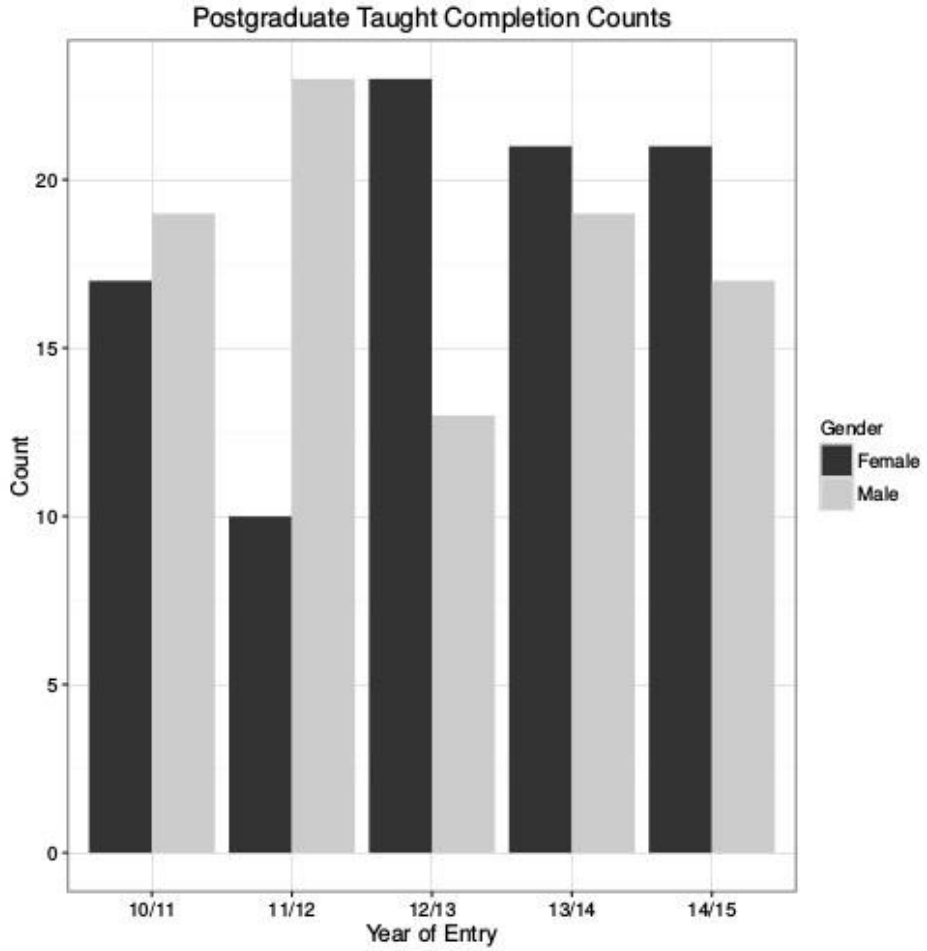


Table 4: Table detailing postgraduate students completion rates, by year of entry

Year of Entry	Gender		Numbers

10/11	Female	100%	17
	Male	100%	19
11/12	Female	91%	10
	Male	96%	23
12/13	Female	96%	23
	Male	100%	13
13/14	Female	95%	20
	Male	95%	19
14/15	Female	100%	19
	Male	94%	16

(iv) Numbers of men and women on postgraduate research degrees

Table 5 and Figure 5 describe the gender profile of our postgraduate research students population.

Table 5: postgraduate research student numbers by gender, mode and programme of study

Programme	***Mode of study***	***Female (num)***	***Female (%)***	***Male (num)***	***Male (%)***
Academic year 2011-12					
PhD (Integrated) Statistics	*FT*	*1*	*50%*	*1*	*50%*
PhD Applied Social Statistics	*FT*	*8*	*53%*	*7*	*47%*
	PT			*1*	*100%*
PhD Applied Statistics	*FT*	*1*	*100%*		
PhD Mathematics	*FT*	*2*	*40%*	*3*	*60%*
PhD Statistics	*FT*	*12*	*67%*	*6*	*33%*

Programme	***Mode of study***	***Female (num)***	***Female (%)***	***Male (num)***	***Male (%)***
	PT	*1*	*50%*	*1*	*50%*
PhD Statistics and Operational Research (STOR-i)	*FT*	*3*	*30%*	*7*	*70%*
	Total	***28***	***52%***	***26***	***48%***
Academic year 2012-13					
PhD (Integrated) Statistics	*FT*	*1*	*50%*	*1*	*50%*
PhD Applied Social Statistics	*FT*	*6*	*55%*	*5*	*45%*
	PT			*1*	*100%*
PhD Applied Statistics	*FT*	*1*	*100%*		
PhD Mathematics	*FT*	*3*	*43%*	*4*	*57%*
PhD Statistics	*FT*	*6*	*50%*	*6*	*50%*
	PT	*1*	*50%*	*1*	*50%*
PhD Statistics and Operational Research (STOR-i)	*FT*	*4*	*24%*	*13*	*76%*
	Total	***22***	***42%***	***31***	***58%***
Academic year 2013-14					
PhD (Integrated) Statistics	*FT*			*1*	*100%*
PhD Applied Social Statistics	*FT*	*7*	*64%*	*4*	*36%*
	PT			*1*	*100%*
PhD Mathematics	*FT*	*3*	*30%*	*7*	*70%*
PhD Statistics	*FT*	*6*	*55%*	*5*	*45%*
	PT	*1*	*50%*	*1*	*50%*
PhD Statistics and Operational Research (STOR-i)	*FT*	*7*	*29%*	*17*	*71%*
	Total	***24***	***40%***	***36***	***60%***
Academic year 2014-15					
PhD Applied Social Statistics	*FT*	*3*	*75%*	*1*	*25%*
	PT			*1*	*100%*

Programme	***Mode of study***	***Female (num)***	***Female (%)***	***Male (num)***	***Male (%)***
PhD Mathematics	*FT*	*4*	*27%*	*11*	*73%*
PhD Statistics	*FT*	*5*	*50%*	*5*	*50%*
	PT			*1*	*100%*
PhD Statistics and Operational Research (STOR-i)	*FT*	*11*	*35%*	*20*	*65%*
	Total	***23***	***37%***	***39***	***63%***
Academic year 2015/16					
MPhil Mathematics	*FT*	*1*	*100%*	*0*	*0%*
PhD (integrated) Statistics	*FT*	*1*	*100%*	*0*	*0%*
PhD Applied Social Statistics	*FT*	*3*	*75%*	*1*	*25%*
	PT	*1*	*50%*	*1*	*50%*
PhD Mathematics	*FT*	*3*	*18%*	*14*	*82%*
PhD Statistics	*FT*	*4*	*50%*	*4*	*50%*
	PT	*1*	*25%*	*3*	*75%*
PhD Statistics and Operational Research (STOR-i)	*FT*	*14*	*50%*	*14*	*50%*
	Total	***28***	***43%***	***37***	***57%***

Figure 5: chart summarising our PGR admissions numbers by gender.

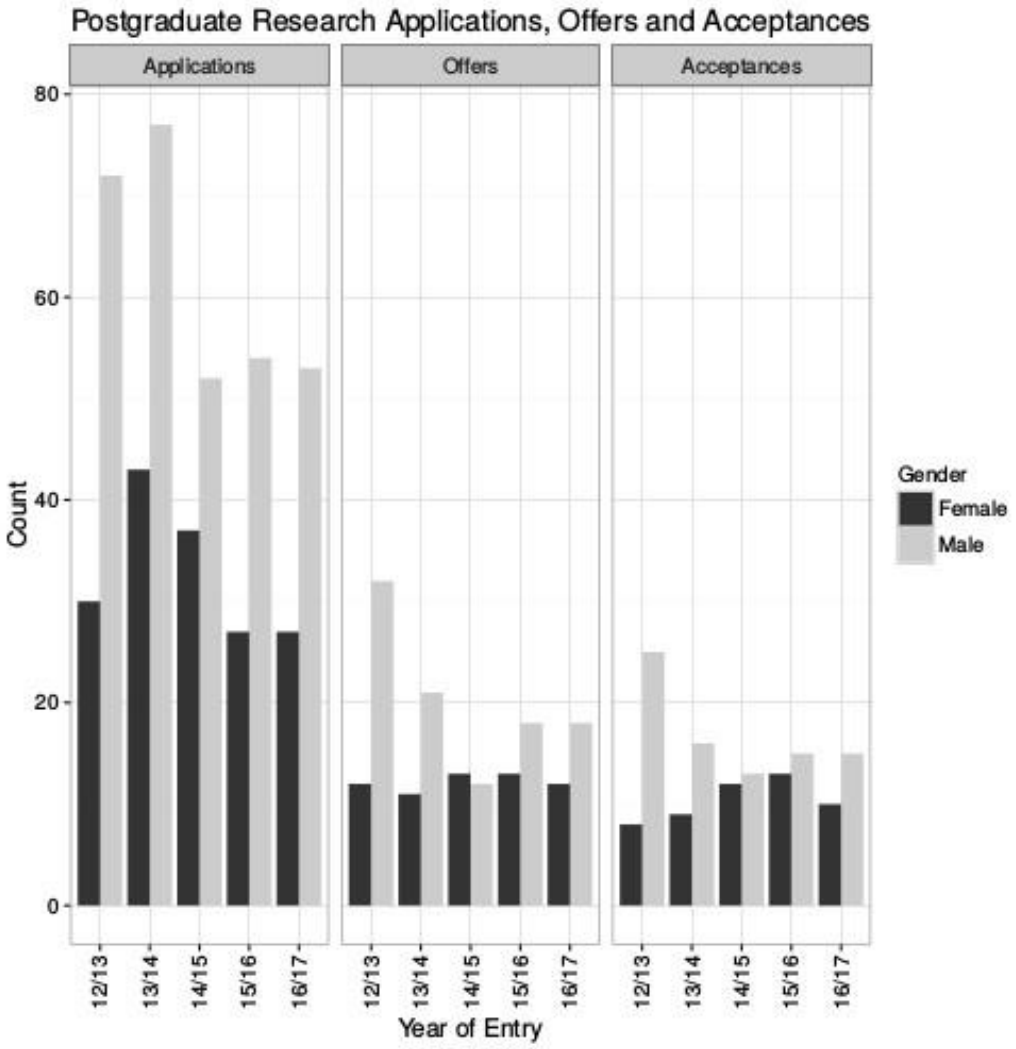


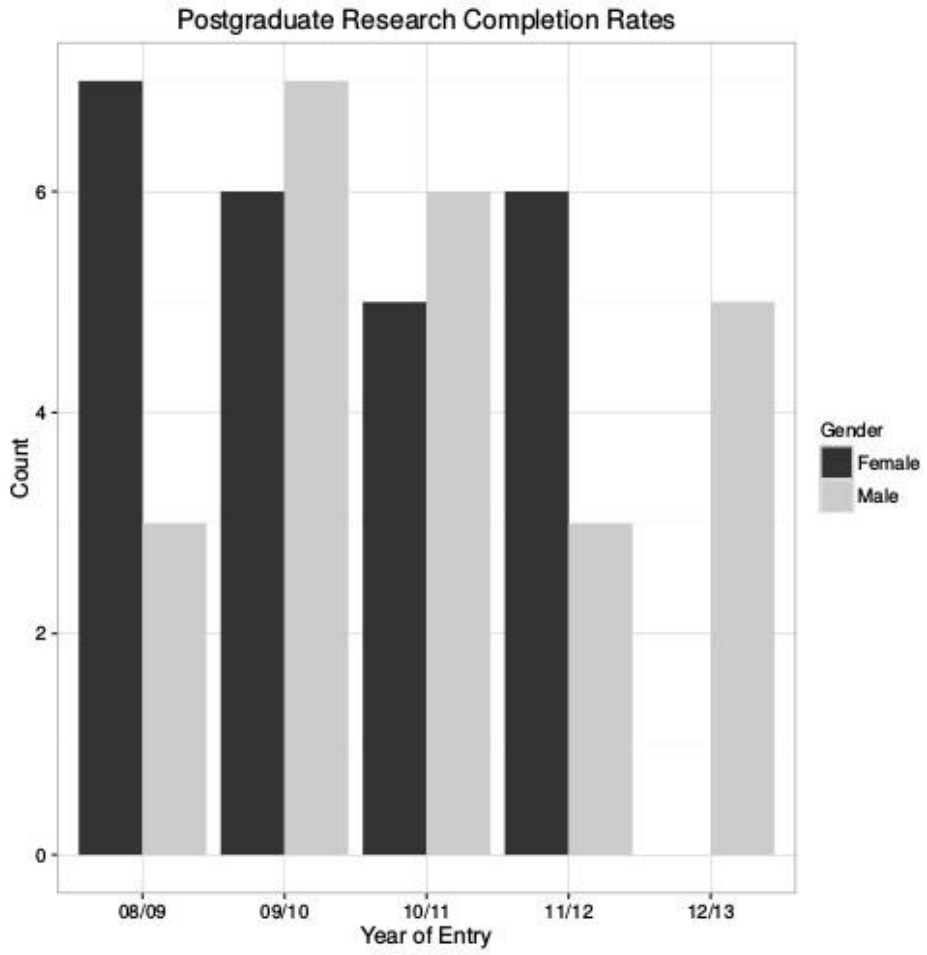
Figure 5 shows that the percentage of female applications to a postgraduate research degree varies between 29% and 42%. Comparing gender-wise the variation from application to acceptance, we see that women are more likely to carry through and accept an offer (37% this year, but down from an exceptional 48% in 2015/16), than men (28% up from 27% in 2015/16). We note an increase in the proportion of our female PGR population in the last year (43%), higher than the national benchmark (28.6%), but still below the 52% in 2011/12. From the programme of study, we note that female students favour statistics subjects, which may inspire a greater security for future employment. Indeed, the proportion of female PhDs in pure mathematics in 2015-16 is 18%. Enrolment figures for 2016-17 (Table 6) show that 7 out of 16 new PGRs are female.

Table 6: Current enrolment in our postgraduate research programmes.

Programme	F	%F	M	%M	Tot
PhD Applied Social Statistics (FT)	1	100%	0	0%	1
PhD Mathematics (FT)	2	67%	1	33%	3
PhD Statistics and Operational Research (STOR-i) (FT)	3	30%	7	70%	10
PhD Statistics (FT)	1	50%	1	50%	2

For female students, we suspect the main barriers in applying for a PGR degree are the highly competitive application process and scarcity of studentships; these factors do not seem to deter male students. We seek to increase our intake of female PGR students. In addition to [actions 4.1 (i)-(iii) and (ix)-(xii)], we continue to allocate a peer tutor to each new PhD student [action 4.1 (xiii)].

Figure 6: chart summarising our PGR completion rates (headcount) by gender and year of entry.



Completion rates (Figure 6) show that at most two students per year per gender fail to complete their degree within 36 months. Comparing with the national benchmark, the proportion of female students who complete their postgraduate research degree in our department is on or above average. We aim to maintain this completion rate.

(v) Progression pipeline between undergraduate and postgraduate student levels

Table 7: Progression pipeline between undergraduate and postgraduate levels

year	UG F	UG M	UG F/ M %	PGT F	PGT M	PGT F/M %	PGR F	PGR M	PGR F/M %

2011/12	183	237	**43.6%**	12	25	**32.4%**	28	26	**51.9%**
2012/13	182	272	**40.1%**	26	14	**65.0%**	22	31	**41.5%**
2013/14	186	318	**36.9%**	23	23	**50.0%**	24	36	**40.0%**
2014/15	169	353	**32.4%**	26	25	**51.0%**	23	39	**37.1%**
2015/16	163	363	**31.0%**	19	25	**43.2%**	28	37	**43.1%**

The data in Table 7 shows a steady constant increase in the numbers of UG and PGR male students, while female UG numbers have been decreasing slightly. The total number of female postgraduates has been stable at 47-48, whilst male postgraduates have increased from 51 to 62. [actions 4.1 (x), (xi) and (xiii)] above show our commitment to proactively encourage female undergraduates to consider postgraduate research studies.

4.2. Academic and research staff data

(i) Academic staff by grade, contract function and gender: research-only, teaching and research or teaching-only

Henceforth, we present staff data as headcount, as opposed to full-time equivalent. Here we address the distribution of staff at the various career stages; progression between stages (including recruitment) is considered in depth in Section 5.

Overall, the percentage of female academic and research staff is 25%, up from 20% in 2014-15, when the national average was 21%.

Research active staff

The percentage of female staff in tenured positions Lecturer Grade 7 has been increasing steadily. In contrast, the number of senior female staff (Senior Lecturer/Reader Grade 9 and Professor) has been stubbornly low. Recent recruitment in the senior grades has not succeeded in hiring any women (see Section 5.1(i)). Supporting the development of female academics already in post is therefore a key aim; Section 5 and our Action Plan describe our strategy to ensure this is achieved.

Table 8: Raw data for academic staff by grade, contract function and gender (F=Female, M=Male, T=Total)

	Research Grade 6			Research Grade 7			Lecturer Grade 7			Lecturer Grade 8			SL/Reader Grade 9			Professor	
Year	F	M	Tot	F	M	Tot	F	M	Tot	F	M	Tot	F	M	Tot	M	Tot
2011/12	1	1	2	3	3	6	1	4	5	4	7	11	1	4	5	8	8
2012/13	1	4	5	2	2	4	2	7	8	4	6	10	1	6	7	9	9
2013/14	2	7	9	1	3	4	3	6	9	4	8	12	1	6	7	10	10
2014/15	2	7	9	1	3	4	4	10	14	3	8	11	2	7	9	12	12
2015/16	3	6	9	1	3	4	4	7	11	5	11	16	3	6	9	14	14

Table 8 shows that there has been no female professor throughout the census period, whilst the gender gap from lecturer grade 7 and above seems to decrease. However, this data dates back to 1/12/2015 and since then 3 female academic staff (1 research on fixed term, 1 lecturer grade 7 and 1 SL grade 9) have left and not been replaced. This prompts us to investigate our failure in retention of female academic staff, with a focus on promotion processes. This is the purpose of [action 4.2 (i)] of actively engaging with the university promotion committee and working towards fair and clear promotion policies, including for part-time and support staff. In addition, our department Promotion Committee will comprise an external female member [action 5.1 (iii)(a)], in order to prevent biases and bring a complementary view on promotion cases.

Teaching-only staff

Our department is research focused, with no expectation of further hiring of teaching-only staff. There have between two and three teaching-only staff in the census period: two at Grade 6 throughout the period, one at Grade 7 in two of the years, and one at Grade 8 for one year. Other than one female for one year at Grade 8, all of these have been male.

(ii) Academic and research staff by grade on fixed-term, open-ended/permanent and zero-hour contracts by gender

Of the staff on teaching and research contracts listed above, one Lecturer Grade 7 and one Professor, both male, have been on fixed term contracts throughout the data capture period. All other staff in this category are on indefinite contracts. It is departmental policy to hire academics on indefinite contracts (subject to probation).

The research-only staff of the department are all on fixed term contracts other than one of each gender at Grade 7 who have been in post throughout the period.

Two male teaching-only staff at Grade 6 have been in post throughout the data capture period and are on indefinite contracts. The Grade 7 and 8 teaching-only staff were on fixed term contracts.

Overall, the majority of staff on fixed term contracts are post-doctoral researchers employed on time-limited grant funding. At present 30% of these staff are female, up from 23% in 2014-15. The bid to host an LMS Women in Maths Day [action 4.1 (ii)] is also aimed at encouraging fixed-term female research staff to pursue an academic career.

(iii) Academic leavers by grade and gender and full/part-time status

Most academic staff who leave the department move on to further academic jobs, although the data available on this is very limited. We aim to limit the number of academic female staff leaving as far as possible (2 since the last census), and as part of this effort we need to collect data on their reasons for leaving. Amongst feedback collected by email by the Chair of the E&D, [**details removed**]. A proactive engagement of discussion with the university's Promotion

Committee [action 4.2 (i)] is therefore highly important and needs be thoroughly carried out, and explicitly supported by leavers' feedback [action 4.2 (ii)].

[1987 words]

5. SUPPORTING AND ADVANCING WOMEN'S CAREERS

5.1. Key career transition points: academic staff

(i) Recruitment

Table 9 summarises academic recruitment in the department over the past four years; grades 7 and 8 are combined as they are frequently advertised as one position.

Table 9: Recruitment for academic posts

Grade	Positions advertised	Applications		Shortlisted		Offered		Accepted	
		Male	Female	Male	Female	Male	Female	Male	Female
	2012-13								
6	4	25 (71%)	10 (29%)	10 (77%)	3 (23%)	3 (75%)	1 (25%)	3 (75%)	1 (25%)
7/8	5	55 (82%)	12 (18%)	13 (72%)	5 (28%)	5 (83%)	1 (17%)	4 (80%)	1 (20%)
9	1	10 (90%)	1 (10%)	4 (100%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)	0 (0%)
10	1	15 (100%)	0 (0%)	4 (100%)	0 (0%)	2 (100%)	0 (0%)	1 (100%)	0 (0%)
	2013-14								
6	2	12 (57%)	9 (37%)	5 (71%)	2 (29%)	2 (100%)	0 (0%)	2 (100%)	0 (0%)
7/8	12	95 (81%)	22 (19%)	25 (86%)	4 (14%)	9 (69%)	4 (31%)	8 (67%)	4 (33%)
9	1	7 (78%)	2 (22%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
10	2	16 (89%)	2 (11%)	6 (100%)	0 (0%)	3 (100%)	0 (0%)	2 (100%)	0 (0%)
	2014-15								
6	10	48 (79%)	13 (21%)	20 (66%)	11 (34%)	7 (54%)	6 (46%)	6 (60%)	4 (40%)
7/8	7	139 (86%)	22 (14%)	17 (89%)	2 (11%)	6 (67%)	3 (33%)	6 (86%)	1 (14%)
9	2	21 (91%)	2 (9%)	3 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	2015-16								
6	1	12 (67%)	6 (33%)	3 (60%)	2 (40%)	0 (0%)	1 (100%)	0 (0%)	0 (0%)
7/8	4	50 (82%)	11 (18%)	15 (79%)	4 (21%)	3 (75%)	1 (25%)	3 (100%)	1 (25%)

The data in Table 9 shows that, in every category, the number of males is greater than the number of females. The differences are particularly stark at the upper end, for instance *none* of the applications for a chair in 2012/13 was from a female. The outcome is that the department has not made a single female

appointment at the senior lecturer level or above in the surveyed period. The numbers in this category are small and cannot prove or disprove the existence of bias; however, it is clear that the most important contributing factor is the very small percentage of applications from women.

To address this issue, we will use our personal contacts to reach out to female applicants and urge them to apply [action 5.1(i)(a)]. In the case of senior appointments, we will contact at least four prospective female candidates.

The situation with recruiting at grades 6 through 8 is more balanced: the percentage of female application ranges from 14% to 37% and the percentages of shortlisted and appointed females are roughly similar, with fluctuations in either direction. Again, the numbers involved are not great but they do not show the existence of a gender bias in the departmental appointment process.

The department's recruitment procedure follows the general university guidelines. The advert, together with the job description and the Person specifications is drafted by the Head of Department or, in the case of appointing a research associate on a funded project, a project leader. The text of the advert is written in consultation with colleagues as appropriate, and is approved by the Dean of the Faculty. The advert is then placed on the University's HR website and also to online academic jobs boards such as jobs.ac.uk and mathjobs.org; various informal online academic fora are also taken advantage of in spreading out the word.

During this process particular attention is paid to the phrasing of the advert, so that it appears as gender-neutral. Last year we made an active effort to include specific text encouraging female candidates and pointing out family-friendly policies adopted by the university and the department (such as flexible working). It is not clear how much difference it has made, this being a very recent action. We will continue to work on the text of our job adverts, particularly taking into account the recent research by Lancaster University Linguistics and English Language Department promoting the use of non-sexist language [action 5.1(i)(b)].

The interview panel normally consists of the Head of Department, another member of staff who is an expert in the relevant field, the Dean of the Faculty and a representative from another department. In the case of a chair/reader appointment, the panel is more extensive, in particular the presence of outside assessors is required. All panel members should have undertaken relevant diversity training, normally by successfully completing the University's on-line training module. This is now mandatory for all academic members of staff and, in particular, forms part of a probationary agreement for new members. This and other mandatory recruitment training events emphasise the importance of being aware of unconscious bias and ways to combat it. The panel members should comprise a diverse range of backgrounds. In particular, the presence of at least one female member is required. Prior to the interview, the candidates are required to give a presentation which all staff members are encouraged to attend; subsequently their views are canvassed and taken into account by the interview panel.

In recent years, several applicants who were offered a post, from Research Assistant to Chair level, declined the offer. We wish to improve our understanding of why this has happened, whether there is a gender aspect to it, and remove any underlying problems, so as to prevent losses at this stage and improve staff retention [action 5.1(i)(c)].

ii. Induction

All new academic staff are provided a mentor, a senior colleague typically working in a neighbouring research area. According to our survey, an overwhelming majority of staff have a positive view of all aspects of the departmental mentoring system. In the case of research associate on a grant project, the mentor is normally the grant holder.

The mentor advises his or her junior colleague on all aspects of academic life in the department and the University, or refers him/her to other colleague when necessary. Because of the relevance of the role of mentor, the department will ensure that mentors are trained in conducting appraisals [action 5.1(ii)]. Additionally, all newcomers are given a tour around the department and provided with an induction pack detailing various relevant bits of information (such as a campus map, the list of members of the department, useful telephone numbers, flexible benefits etc.)

New members of staff also benefit from an annual Performance & Development Review (PDR). The aim of the review is to discuss the performance of the member of staff over the past year, identify challenges and ways to overcome this, and to set targets for the next 12 months. The PDR is normally conducted by the mentor of the new staff member. Having a PDR is mandatory for all staff members whose contract extends beyond 12 months.

In addition to the annual PDR cycle, the Head of Department meets with all new members of staff periodically during their probationary period (typically three years) to ensure they are on track to meeting the targets set out in the probationary agreement.

Furthermore, junior staff members (up to senior lecturer level) are given a lighter teaching and administrative load during their probation; with most of relief provided in year one and then gradually increases to average levels.

iii. Promotion

[**The statistics in this section involve small numbers of staff, who may be identifiable from the information originally given. Therefore this data has been removed for this public version of the application and replaced by "*".**]

The departmental promotion practices of staff are closely aligned with the University's guidelines, which are all available on the University's HR website; further details are provided in the departmental staff handbook available through staff intranet. All permanent academic staff are eligible for promotion and could put themselves forward with or without explicit support from the department.

Transition through the spinal points of any given grade is automatic and is referred to as progression, whereas promotion refers to passing between different grades from 7 to 10 for permanent academic staff. Grades 7 and 8 correspond to the lecturer level, Grade 9 and 10 – to the levels of senior lecturer/reader and professor respectively.

Permanent academic staff at the top of Grade 7 are encouraged by their mentors to apply for promotion to Grade 8; it is rarely the case that such a promotion is not supported; often it coincides with the passing of probation. In the last four years [*] promotion cases from Grade 7 to 8 were considered, [*] of which were females, with [*] success rate. [**Additional information deleted**].

Table 10 summarises the promotion cases in the department in the last three years; all cases involved full-time staff. Here, "S" indicates successful and "U" unsuccessful. [**This table has been removed for the reasons indicated above.**]

Table 10: Promotions applications outcomes in the last 4 years.

We believe the figures in Table 10 provide no evidence of the presence of a gender bias. There are a greater number of male cases (but this is to be expected given the prevalence of male staff in the department) but the success rates are more favourable for women than for men in the cases of promotion from Grade 8 to 9. This trend is reversed for promotions to Grade 10. The inclusion of an external woman professor to our departmental Promotion Committee aims at ensuring fairness of treatment in promotion cases [action 5.1(iii)(a)]. In addition, all PDR reviewers must openly discuss promotion strategy with their reviewees [action 5.1(iii)(b)].

One of the mechanisms for supporting staff in the promotion process, is through annual PDR meetings. During these meetings, the reviewer discusses the promotion prospects with their reviewee, the timeline for promotion is set, and possible obstacles are identified together with plans to overcome them. When a member of staff decides to apply for promotion, he/she informs the Head of Department and, after further discussion, prepares an application form which, together with the Head's supporting statement is further submitted either to the faculty's Promotions Committee (for promotions from Grade 7 to 8) or the University's Promotions Committee (for promotions to Grade 9 and above). Often a member of staff is being encouraged to apply for promotion (typically by his/her PDR reviewer [action 5.1(iii)(b)]).

The criteria for promotion for each grade are developed centrally by the university and are available on the HR website; their interpretation and further guidance in the context specific to the department are formulated by the Head of Department, in consultation with Heads of Sections, and form part of the departmental handbook. These criteria and interpretation are updated annually.

From 2015/16 academic year, a departmental Promotions Committee has been established to ensure wider representation of views across the department. All professors as well as the Head of Department, are automatically members of the

committee. The committee meets shortly before the annual promotion cycle starts and goes through the list of staff members, deciding which cases should go forward; individual members of the committee will then work with the Head of Department preparing the cases according to their expertise. We will change the membership of the committee by inviting all female members at Senior Lecturer level and above and an external female professor from a cognate department of the University [action 5.1(iii)(a)].

The university holds a biennial *Making Professor* workshop about academic promotion, career development and removing barriers to progression to which all academic staff are invited. The Head of Department will strongly encourage all non-professorial academic staff to participate to it [action 5.1(iii)(c)].

The perception of staff on the promotion process is mixed. While none complained that the process is not fair or not transparent, there were some negative comments on various aspects of the process. [actions 5.1(iii)(a) and (b)] aim at addressing any negative perception of promotion and supporting academic staff through the promotion process, by including an independent person to our promotion committee, and by proactive engagement of PDR discussions.

According to the university's policy, candidates for promotion are encouraged to declare any significant periods of "time-out" that may be relevant to their career history; for example, caring for children or other relatives, maternity leave or long-term sickness. This information is then taken into account by the promotions committees in assessing cases.

iv. Department submissions to the Research Excellence Framework (REF)

At the date of REF2014 census there were 38 staff members eligible for submission; 29 males and 9 females (or 75.5%--24.5% split). There were 31 staff members submitted into REF; among them 24 males and 7 females, (77.5% and 22.5% respectively).

At the date of RAE2008 there were also 38 staff members eligible for submission; 30 males and 8 females, (79%--21% split). Across the two research sections, the Pure Mathematics and Statistics and OR, 34 category A staff members were submitted, 27 males and 7 females, (79.5% and 20.5% respectively).

In both instances the percentage of submitted academics who were female is slightly lower than the percentage of eligible academics who were female whereas the percentage of submitted males was correspondingly slightly higher. [action 5.1(iv)] aims at encouraging all academic staff to engage with the research community and participate to conferences, and especially, women by encouraging to apply for additional (childcare) grants.

We can conclude that the RAE2008 and REF2104 data are broadly similar. The positive trend is that the overall ratio of females to males increased slightly (from 21% to 24.5%). Accordingly, the percentages of females both in the submitted and not submitted categories went up slightly.

5.2. Key career transition points: professional and support staff

N/A

5.3. Career development: academic staff

(i) Training

All academic staff benefit from university-wide or faculty-wide training opportunities. These include mandatory information training, systems training, a range of teaching and learning courses, leadership programmes and workshops on grant proposal writing.

These courses are freely available. The following table describes their uptake in the last three years. The marked increase in the uptake in the year 2014 is probably related with a larger than normal number of new appointments.

Table 10: Staff intake of university's training courses.

	Female	Male	Total
2013	50	86	136
2014	87	111	198
2015	40	69	109
Total	177	266	443

In addition, the university offers a small number of sporadic training events specifically for female academic staff, such as a masterclass on interacting with the media in 2014/15, taken by three of our staff.

Within the department most of the training is done on an informal level, often during the interaction between a junior staff member and their mentor. Particular attention is being paid to train junior staff at grant proposal writing; until now this has been done informally but increasing numbers of early career researchers in the department necessitate a more systematic and formal approach [action 5.3(i)].

Starting last academic year, the department adopted an academic tutor system, according to which the majority of academic staff have small groups of undergraduate students whom they meet and advise throughout the year. We have established mandatory formal training for academic tutors. The academic tutors are playing a key role in implementing [actions 4.1(x)]. The key component of the departmental appraisal system described below is the identification of training needs of academic staff. The information is then fed into the departmental PRC consisting of senior academic staff discharging key administrative duties within the department. The PRC assesses the adequacy of current provision of training and formulates departmental policies accordingly.

ii. Appraisal/development review

According to the university's regulations, the department operates PDRs, an annual appraisal scheme. The aim of PDR is to:

- Clarify role expectations and performance required.
- Facilitate the giving/receiving of feedback.
- Support individuals in planning and fulfilling their ongoing development.
- Offer an opportunity to discuss individual circumstances & wider experiences at work.
- Contribute to the support of individuals and their departments as roles, expectations and structures change.

All Lancaster University staff employed for more than 12 months continuously, including those on fixed-term contracts, are expected to take part in PDR. New academic staff should have their objectives set via a probationary agreement.

The PDR forms are designed to be simple and useable. The emphasis in the PDR scheme is on a rich conversation with meaningful outcomes; the forms are designed to help facilitate a structured discussion and act as a record. The PDR form has four parts:

- Review of performance
- Setting objectives
- Plans for self-development
- Summary and sign-off

What is captured in the finalised PDR document is agreed between the reviewer and the reviewee as an accurate record of the PDR discussion.

Conducting PDRs is mandatory, so 100% of staff are involved in the process. The feedback from staff obtained from our survey is generally positive: 78.6% were satisfied or strongly satisfied, whilst 2.4% were dissatisfied.

Reviewers are required to attend training (provided by the HR Division) prior to undertaking reviews for the first time, and to ensure their reviewees are fully briefed and prepared for the process. In the years 2013/14, 2014/15 and 2015/16 uptake was 1, 2 and 1 respectively.

iii. Support given to academic staff for career progression

The department has various mechanisms to assist academic staff in their career progression. New permanent lecturers get lighter teaching and administrative load. All staff members have access to the departmental research budget from which funding could be requested for making research visits, hosting academic visitors, travelling to conferences, organising workshops and similar activities. The application procedure is straightforward and the success rates are very high.

The University operates a PGCAP (Postgraduate Certificate of Academic Practice) programme. The programme is accredited by the Higher Education Academy

meaning that the successful completion of it module leads to Fellow of the Higher Education Academy (HEA) status. The programme helps academic staff to situate themselves as individual academics and teachers within the issues and concerns of their department, the university and the wider academic context, to support the development of their professional aspirations and achievements. All staff members (permanent and temporary) have access to the programme.

The university also provides an alternative programme, ATLAS (Advancing Teaching: Lancaster Accreditation Scheme). It has been designed for staff with substantial experience of teaching and supporting learning in higher education to continue with their professional development in teaching, and in doing so gain professional recognition status with the Higher Education Academy by demonstrating their engagement with the UK Professional Standards for Teaching and Supporting Learning in HE. We will develop a department-specific ATLAS-type course for experienced staff, with support from OED and led by the Head of Undergraduate Teaching [action 5.3(iii)].

Postdoctoral researchers are typically funded by research grants; they receive additional support and advice from the grant holders. In those cases, when it is allowed by terms of the grant, the postdocs are given the opportunity to teach and/or supervise undergraduate projects; this enhances their academic experience and improves their prospects for a permanent job.

iv. Support given to students (at any level) for academic career progression

All Lancaster students or graduates benefit from a Careers and Employment and Recruitment Service that is part of the Lancaster University. The service provides guidance and information on all aspects of careers including advice on how to apply for jobs, internships and placements. Help is available during drop-in sessions as well as by appointment or email query. The Careers Service also arranges meetings with prospective employers and, in November of each year, it combines with the Alumni Relations Office to organise the Careers Fair at which approximately one hundred Lancaster graduates are available to talk about their present jobs and offer advice.

In addition, the department has an in-house career tutor who provides more specialised advice as well as liaises with the central Careers service and advises students about relevant career-related events and workshops.

Further support is given to undergraduate students by their academic tutors, whose role is:

- To hold a meeting in introductory week of their first year, and termly thereafter,
- to provide help with module choices,
- to monitor the student's progress,
- to support the student's career planning and write them references,
- to sign-post the student to services available elsewhere in the university.

Postgraduate students are typically being advised on career choices by their academic supervisor. The latter encourages the student to go to appropriate

meetings and workshops to disseminate his or her research and develop useful contacts, introduces them to academics in the relevant fields etc. The department has a budget earmarked for PhD students travel.

Lancaster PhD students further benefit from a range of advanced courses taught in the framework of EPSRC-funded Taught course centres MAGIC (Mathematics Access Grid Instruction and Collaboration) and APTS (Academy for PhD Training in Statistics).

The department has a designated role of a Postgraduate Research (PGR) Students Tutor. The role of a PGR Tutor is, in particular:

- to advise and assist the Head of Research in the formulation and implementation of specific policy concerning postgraduate research training;
- to ensure that each research student admitted is assigned to a suitable supervisor and has an appropriate Higher degree committee;
- to ensure that each research student has suitable office accommodation and suitable computing equipment;
- to liaise with the Head of Postgraduate Teaching to ensure that research student issues for the department are represented at the Faculty Postgraduate Committee.
- Assign a peer-tutor to each new PhD student [action 4.1(xiii)].

The department is home to a Centre for Doctoral Training in Statistics and Operational Research (STOR-i) which trains a number of PhD students. All STOR-i students have a student mentor (a STOR-i student from the year above) to discuss issues throughout their time. This is a very efficient arrangement and we implemented it since 2015/16 throughout the department.

The department has an extensive provision of taught postgraduate (PGT) programmes: MSc in Statistics, Quantitative Methods, Quantitative Finance and Data Science. Each programme has a tutor whose roles have a large pastoral element to them.

All tutor roles mentioned above get formal credit for their administrative load according to the departmental work allocation model.

v. Support offered to those applying for research grant applications

The Department of Mathematics and Statistics policy is to encourage staff to apply for external funding as much as possible. A specific website offering guidance on various grants opportunities and best practice for grant application writing has been set up by the departmental Head of Research. We also plan to hold regular training events for grant writing [action 5.3(I)].

Informal and formal procedures are in place for reviewing draft applications. Samples of past applications are provided when relevant. Experienced members of staff are looking at proposals in various stages of completion, giving criticism and suggestions for improvement. The Head of Department signs off an application only after it has been scrutinized by two colleagues and the

departmental Impact Champion (an academic specifically tasked to promote socio-economic impact of research within the department).

Every part of an application is looked at, with the goal to present it in the best possible light. Various pieces of advice are dispensed: on the timing of an application, eligibility, duration of a project, the scientific context, the level and appropriateness of requested resources and management arrangements.

This is based on the data both publicly available (i.e. success rates, prioritised areas of research etc.) as well as coming from personal experience such as refereeing other grant proposals, participating in advisory panels etc. For new staff members, the mentor is usually involved in the preparation of the proposal, particularly in the early stage when formulating the ideas.

When appropriate, the department conducts a mock interview for an applicant.

All proposals are discussed by the Research Committee and further improvements are suggested.

Successful grant holders obtain relief from administrative and teaching duties according to the departmental principles of workload allocation; another incentive is an improved prospect for promotion. At the same time, we realise that a competitive research grant is difficult and we recognise the time spent writing an unsuccessful proposal in our work allocation model: typically, a standard EPSRC grant proposal is deemed to be worth 40 working hours.

5.4. Career development: professional and support staff

N/A

5.5. Flexible working and managing career breaks

(i) Cover and support for maternity and adoption leave: before leave

The department follows central university policy on support prior to maternity and adoption leave; this information is on the central HR website. In regards to pregnancy, the department has a health and safety risk assessment check. Necessary medical appointments, as with any medical appointments, are generally covered by flexible working. Other staff may cover non-moveable tasks, e.g. teaching, if a medical emergency arises.

ii. Cover and support for maternity and adoption leave: during leave

For academic staff, cover for teaching and supervision during maternity and adoption leave is arranged on an informal basis. Supervision of Research Associates or PhD students is covered by either co-supervisors or a member of academic staff working in a similar research area.

For support staff, temporary help can be obtained with Faculty approval. In the past, existing support staff have covered the main job of the person on leave, whilst also carrying out their own job. A temporary member of staff has covered more routine jobs.

In line with central university policy, the department allows staff members on leave to participate in up to ten optional Keeping in Touch days; [**additional information deleted**]. Members of staff remain on departmental email lists, and are contacted by their managers when necessary e.g. one member of staff was contacted directly by their manager to draw their attention to the upcoming university promotional round.

iii. Cover and support for maternity and adoption leave: returning to work

Currently no specific allowances are made in the departmental workload model to support staff returning from leave. We propose that, on return from leave, staff should be given additional research time to allow them to re-connect with the research community [action 5.3(iii)(a)].

Staff are able to apply for the central university Maternity/Adoption Research Support fund, from which they can receive up to £10,000 to minimise disruption to their research before, during or after maternity or adoption leave. However, since this award requires that applicants are research active in the sense that they should hold at least one funded research project and support at least one Research Assistant or PhD student, this is unlikely to be helpful to academic staff at the start of their careers. [**Additional information deleted**]. This is covered in [action 5.5(iii)(b)]

There is a campus-based pre-school which offers childcare for children below school age. Whilst some members of the department use this, it can be hard to get in to, particularly if places for siblings are required or if the required start date is not at the start of the academic year. Both this, and the related issue of school holiday childcare, are university-wide issues and are being tackled by central Athena SWAN and Equality and Diversity committees that are informed by departmental Athena Swan representatives [action 3(b)].

iv. Maternity return rate

[**This paragraph has been deleted.**]

v. Paternity, shared parental, adoption, and parental leave uptake

[**This section has been deleted.**]

(ii) Flexible working

Flexible working within the department happens formally and informally. Seven out of thirteen support staff work part-time, including [*] staff members on school term-time hours. Opinions on the success of this are mixed; [**additional information deleted**].

Several academic staff formally work part-time hours. [**Additional information deleted**].

Informally, it is acceptable for male and female staff to work around a standard 9-5 working day, e.g. to cover school pick-ups, school holiday care or family emergencies, provided that their work is covered at some other time. Conversely,

staff in part-time roles report switching days off in order to cover important meetings at work, and report regularly checking and responding to emails on days off. With regards teaching, staff can specify hours/days when they would prefer not to teach, e.g. after 5pm; central timetabling tries to accommodate this.

Whilst part-time hours are accounted for in the departmental workload model, the same cannot be said of the allocation of out-of-model jobs (e.g. PhD vivas, module reviews) that all members of the department are expected to cover. This has led to [action 5.5(vi)] whose objective is to ensure fair treatment of part-time staff in such matters.

(iii) Transition from part-time back to full-time work after career breaks

To transition back to a full-time role a written case must be and approved by the Faculty Dean. Provided agreement is obtained from the Head of Department, the request is forwarded to the Faculty office. This has been done successfully for [**additional information deleted**].

5.6 Organisation and culture

(i) Culture

The department is very conscious of gender equality and inclusivity. Since October 2012, the department has been a Registered Supporter of the London Mathematical Society Good Practice Scheme and since then departmental meetings have regularly included discussion of gender equality issues.

We see ourselves as a friendly place, made up of people who are passionate about our subject in all its facets, and that welcomes and respects everyone irrespective of their career stage, from beginning undergraduate to senior professor.

The department allocates workload points for equality and diversity roles, including the SAT, and provides financial support for the Florence Nightingale Day (see 5.6(viii) below). The STOR-i CDT has been involved in bringing a distinguished female academic to give a masterclass to STOR-I students recently. There is no fixed budget allocation for activities promoting equality and diversity but the department funds these on a case-by-case basis.

We try to avoid having postgraduate or postdoc offices with only one gender, although numbers mean that this is not always possible.

We organise regular departmental social events – a Christmas dinner and party and a summer event (some team sports and a BBQ).

We are reassured that our optimistic assessment of the department's culture is shared among its wider membership by the results of the surveys conducted during the preparation of the present application. For example, 69% of staff in the most recent survey believed that the department is committed to promoting equality and diversity (up from 60% in our first survey) and 81% said that the department provides a positive work environment. This leaves some room for improvement, and we hope that the action plan's measures will aid this.

We will continue to monitor and embed equality and diversity into the culture and workings of the department, through the departmental E&D Committee. Now in its second year, the E&D Committee comprises students whose role is to report and help investigate students' equality and diversity issues [action 3(b)]

ii. HR policies

The HR policies and procedures are published and available at the university's HR website. The majority of HR issues within the department are handled by the Head of Department and the Departmental Administrator (DA), in consultation with appropriate senior academic staff or delegated to them. The HoD and DA are monitoring the consistency in the application of the HR policies; in this they are assisted and advised by an HR partner, with whom they meet regularly. Any change in the HR procedures is communicated by the HR partner to HoD, who then informs senior staff as appropriate. The DA also attends regular training sessions on HR matters.

Fortunately, cases of bullying, harassment, grievance and disciplinary procedures are very rare in the department; in the vast majority of cases it has been possible to resolve issues through informal procedures, at least as far as our knowledge extends (the past 16 years). We have not identified any differences between HR policy and practice.

iii. Representation of men and women on committees

Table 11 summarises the gender representation on all the committees of the department (not including the Department Committee), in the academic year 2016-17.

Table 11: Composition of staff on departmental committees

Committee	**Academic staff**		**Administrative staff**		**Students**	
	M	F	M	F	M	F
Policy & Resources Committee	6*	1	0	1	0	0
Promotion Committee	13*	0	0	0	0	0
Undergraduate Teaching Committee	9*	3	0	2	0	0
Postgraduate Teaching Committee	4	3*	0	2	0	0
Research Committee	6*	1	0	1	0	0

Computer Committee	2	2*	3	1	1P	0
MSc Statistics Executive Committee	4	2*	0	1	0	0
MSc Quantitative Methods and Short Courses Committee	3*	2	0	1	0	0
E&D (+3 students)	3	2*	0	2	1U	1P+1U
Publicity, Web & Outreach Committee	7*	1	0	1	0	0
Staff-Student Consulting Committee	8	3	0	4	2P*+12U	10U

*=Chair; U=Undergraduate; P=Postgraduate

The ratios vary considerably but we see that seven of the eleven committees have female academic staff representation above the percentage of female academic staff in the department.

Many of the committee membership positions are consequences of the allocations made via the workload model. For example, the department's main management committee, the Policy & Resources Committee, consists of the Head and Deputy Head of Department, Heads of Sections, Heads of Undergraduate and Postgraduate Teaching, the Chair of the Research Committee and the Departmental Officer. These are mainly senior roles within the department and the relatively small number of women in senior grades places some limits on the gender balancing of this committee. In 2016-17 only the Head of Postgraduate Teaching was a woman.

In the case of the Research Committee, however, we will take a specific action [action 6.1(xxi)(a)] to reform this committee's membership, to include two representatives of our early career researchers, one of whom should be female.

Since female staff in the department are more likely to have been appointed recently, they are consequently less likely to be asked to take on roles involving committee membership, in line with the measures taken to limit the administrative workload of early career staff. We expect that in time the above ratios will tend towards more female representation, as those staff are encouraged to take on more significant administrative roles, partly with a view to their career progression. We will help ensure this though particular attention to mentoring of female staff [action 6.1(xxi)(b)].

We note that there is one further committee not included in the above table, namely the Department Committee, consisting of all the department staff, which gives its formal approval to various decisions via the termly Departmental Meetings; its gender balance is of course that of the department as a whole.

iv. Participation on influential external committees

The majority of committees external to the department that staff are active in are Faculty and University committees. Membership of these is also typically *ex officio*, e.g. the Head of Undergraduate Teaching sits on the Faculty Undergraduate Teaching Committee. As such, the participation of women in these committees relates mainly to their departmental administrative roles.

For committees and editorial boards external to the University, membership is usually by invitation. Individuals might seek guidance from the Head of Department or other senior staff, who can encourage staff to accept these invitations when they will be a positive step for that person's career [action 6.1(xxi)(b)].

(ii) Workload model

The departmental workload model is designed according to the following principles:

- It includes all academic staff in the department;
- The work credit allocation scheme is transparent and is made available in a comprehensible form to all departmental staff;
- It includes the core activities: undergraduate and postgraduate teaching, PhD supervision, research, administration;
- All academic staff are allocated a mix of the above core activities;
- The precise weightings of specific duties are determined by the department and are used to ensure a fair and balanced distribution of work.

Until now, no conscious effort was made to use the departmental workload model to monitor gender bias. This will now be done [action 5.6(v**)**].

The fairness of the workload allocation is constantly being monitored and tested, in particular during the annual appraisal meeting of academic staff. Concerns expressed at those meetings are being fed to the Head of Department who makes appropriate adjustments to the weighting of specific activities.

The workload model is an indispensable tool in constructing promotion cases for academic staff at every stage. For example, to be promoted to senior lecturer, a candidate must carry out a substantial administrative duty. At the same time, the workload model helps the Head of Department to make administrative and teaching allocations of staff commensurate to their career stage and contract type.

According to our most recent survey, only 38% of staff currently consider the distribution of workload to be fair, substantially lower than 80% in our first survey. We believe that some specific recently-raised issues regarding the weighting formula for taught courses is responsible for this drop, rather than gender equality issues. However, 69% of staff consider the model to be transparent. We will continue to work on improving the processes and the

workload model. A working group reviewing all aspects of the workload model is being set up [action 5.6(v)].

(iii) Timing of departmental meetings and social gatherings

The department coordinates its committee meetings, seminars and formal social events by means of a draft plan circulated around August each year, to which staff contribute. By doing so, we attempt to ensure that important meetings are advertised well in advance and also fit with the work and childcare needs of staff members. The earliest scheduled start of a meeting listed on this plan is 9.30am and the latest scheduled finish is 4pm. It is fair to say that the department considers these to be "core hours" and generally scheduling activities outside these times is avoided.

There are also informal social gatherings. Events such as the Christmas party (usually held in the evening) and a summer gathering are open to family members and advertised well in advance, making it easier for staff to make appropriate childcare arrangements if needed, and staff commitments are taken into account in the scheduling.

(iv) Visibility of role models

Role models are already visible in the department and in our associated activities. For example, until recently both of our undergraduate external examiners were female (currently one of the two is) and the visit of the LMS Hardy Lecturer, Professor Nalini Joshi, in July 2015 was another occasion on which a female role model was very prominent.

More generally, when organising larger events, such as workshops or conferences, we ensure participation of female local organisers and speakers. In this, we follow the Women in Mathematics policy of the London Mathematical Society and the corresponding EPSRC policy.

Through [action 4.1(ii)], organising an LMS Women in Maths day at Lancaster, we hope to raise even further the visibility of female role models in our department.

For seminar invitations, we do not currently have a specific policy or guideline for seminar organisers regarding gender balance; based on seminars in the previous year, we currently have a ratio of between two and three male speakers for each female speaker. We will undertake [action 4.1(i)] to continue to try to achieve a better balance of speakers. The department is also supportive of our own female academic staff and students to participate in external conferences and give seminar talks by providing cover for teaching, additional funds if needed etc.

In publicity materials, both printed and on the web, considerable effort is made to write text and select images that reflect the diversity we promote. This includes all facets of diversity, including gender and race particularly. For example, the department's Undergraduate Admissions pages feature six student profiles, four from female students. We will review all our publicity materials to ensure these are promoting equality [action 4.1(vi)].

(v) Outreach activities

The department runs a number of activities under the heading of outreach, including both schools outreach and public engagement work. Many of these are mainly aimed at widening the participation of students in mathematics courses, especially Further Mathematics A-level and then in Higher Education. Currently, our Outreach Officer is applying to organise an LMS Summer School between 2018-2020 in Lancaster [action 4.1(iii)].

In view of the decrease in the proportion of female undergraduate admissions, we want to increase and widen our engagement with schools (Lancashire, Cumbria and Yorkshire), by allocating additional funds to the outreach travel budget and sending students `Ambassadors' to their former schools to promote the study of mathematical sciences at Lancaster [action 4.1(v)].

In 2013, a female member of staff launched a new event, specifically targeted at female pupils in years 11 and above, encouraging the students to consider careers in the mathematical sciences. This event, the Florence Nightingale Day, now runs yearly and involves schools from all of Cumbria and Lancashire. Initially external funding enabled the event to take place but the department now fully funds this event. This activity was included in the documentation for the female member of staff's promotion to Senior Lecturer.

The role of Outreach Officer is duly credited in the workload model and other members of staff who contribute to events do so voluntarily and are not usually assigned workload points.

For outreach activities over the past three years, there were 7 male and 4 female academic staff and 3 male and 2 female research student/research associate involved. We do not have exact figures on the numbers of male and female undergraduate student helpers at these events but they have been majority female for most activities. We try to encourage female undergraduate participation particularly, as for many of the female school pupils, seeing female role models is extremely important to them.

We monitor female student participation in all of our activities. With the exception of the Florence Nightingale Day, these typically involve 30-40 pupils at a time and the male:female ratio does vary somewhat from cohort to cohort.

[6760 words]

6. CASE STUDIES: IMPACT ON INDIVIDUALS

N/A

7. FURTHER INFORMATION

None.

[words]

[Application total word count: 10196 words]

7. ACTION PLAN

Reference	Action	Rationale	Expected outputs	Period	Assessed	Responsible	Success criteria
3(a)	Termly E&D meetings	Regular discussions are needed on possible equality and diversity issues in our department. The meetings will also monitor the implementation of the actions detailed in this document.	All staff and students feel confident of fair treatment throughout their time with the department.	Since November 2014	After each meeting	Chair of the E&D committee	Staff and students feel confident of fair treatment, as assessed by departmental surveys. Actions in this document implemented and acted upon in timely fashion and effectively, as evidenced by their success criteria.
3(b)	E&D committee to report its proceedings at department meetings, and to liaise with the university's Athena SWAN and Equality, Diversity and Inclusion committees	Decisions of these committees need to be promptly and openly communicated to all concerned.	Clear and efficient communication between all parties concerned with equality and diversity matters	Since November 2014	Termly	Chair of the E&D committee	Actions agreed are implemented and acted upon in timely fashion and effectively, as evidenced by their success criteria.
4.1(i)	(a) Allocate additional funding of £500 per annum to the Pure Mathematics Postgraduate Forum to invite external female speakers (up to 4 per year). (b) Advise PGR Statistics students to keep a balanced gender ratio in their PG Forum.	The ratio of female-to-male speakers in the Pure Mathematics PG Forum is 10%, compared to 45% in the Statistics PG Forum. The speakers are PhD students from the department, and women are under-represented as Pure Mathematics PhD students in our department.	Improved ratio of female-to-male speakers. Increased confidence of our female PGR students. Increased collaboration between our PGR students and external researchers. Increased visibility within the department of women in PGR.	From November 2016	At the end of each academic year	(a) Head of the Pure Mathematics Section (b) The PG Statistics Tutor	(a) At least 25% of talks at the Pure Mathematics Postgraduate Forum delivered by a woman. (b) At least 40% of talks at the Statistics Postgraduate Forum delivered by a woman.

4.1(ii)	Organise an LMS Women in Mathematics Day at Lancaster by 2020	Women are under-represented at various levels in our department. There is a need to increase the visibility of appropriate role models.	Increased self-confidence of women at all stages of their careers. Increased networking and strengthened ties within the UK community of women in mathematics.	July 2017 to December 2020	Over the two years following the event	Chair of the E&D committee	Retention rates of female students and early career researchers at least the national average. Proportion and total number of female applicants for PGR at least the national average. At least two cases of female academics put forward for promotion every year.
4.1(iii)	Organise an LMS Undergraduate Summer School	From survey responses, women in our department feel under-represented and few undergraduates opt for a postgraduate degree.	Increased numbers of female undergraduates opting for an academic career in the mathematical sciences.	Summer 2018 or 2019	Over the two years following the event	Outreach Officer	Increase by 5 percentage points the proportion of female undergraduate applying for postgraduate degrees, from 2019.
4.1(iv)	Explore the use of unconditional offers in admissions of undergraduate students.	Since raising our entry tariff, we have observed a decline in admissions of female applicants. Unconditional offers may be one way to improve the situation.	Increased intake of female undergraduate students to at least the national average.	From Spring 2017	From October 2018	Head of Undergraduate Admissions	Increase to at least 40% the proportion of female undergraduates admitted by the department, from 2019.

4.1(v)	Increase our engagement with schools. (a) Align our recruitment strategy with schools where most of our undergraduates come from. Allocate additional travel funds of £300 per year to Schools Liaison. (b) Set up a pilot project to send female undergraduates to their former schools as Student Ambassadors. Allocate a further £300 per annum for this travel.	(a) A large proportion of our undergraduates come from Lancashire, Cumbria and Yorkshire. We should increase our engagement with the schools in these regions. (b) Sending female Ambassadors to their former schools to act as role models is likely to be a good strategy to increase our recruitment of female undergraduates.	Increased intake of female undergraduates, particularly from Lancashire, Cumbria and Yorkshire.	From Spring 2017	From October 2018	(a) + (b) Schools Liaison Officer (to work with schools) (b) Head of Undergraduate Teaching (to recruit Student Ambassadors)	Increase to at least 40% the proportion of female undergraduates admitted by the department, from 2019.
4.1(vi)	Improve our website. (a) Add case studies of successful female undergraduates who entered university with lower A-levels achievements. (b) Emphasise our safe campus environment.	(a) To encourage women to apply for an undergraduate degree, we will provide concrete examples of successful female students. (b) We also believe that personal safety is an important concern of female applicants.	Increased intake of female undergraduates.	November 2016 to March 2017 (a) To be updated every three years.	From October 2018	(a) + (b) Webmaster (to implement) (a) Head of Undergraduate Teaching (to identify case studies)	Increase to at least 40% the proportion of female undergraduates admitted by the department, from 2019.

4.1(vii)	Conduct open days to promote the advantages to female applicants of studying mathematics at Lancaster University	There are advantages that we need to ensure are made clear to potential applicants: a safe campus environment, individual Academic and College Tutors, a female-friendly atmosphere, convenient public transport, etc.	Increased intake of female undergraduates.	From February 2017	From October 2018	Undergraduate Admissions staff	Increase to at least 40% the proportion of female undergraduates admitted by the department, from 2019.
4.1(viii)	(a) Compare gender ratios for undergraduate Open Day attendance and admissions. (b) Analyse feedback from undergraduate Open Day participants who choose not to apply to Lancaster.	Our undergraduate admissions figures show a drop in the gender ratio over the past 5 years. We need to understand the causes in order to redress the gender balance in our undergraduate population. Comparing with the gender ratio of those attending Open Days should reveal if the leakage occurs between Open Days and admissions, or elsewhere.	(a) A comparable gender ratio for those attending undergraduate Open Days and those applying. (b) An engaging Open Day programme, to encourage female applicants in particular.	February to March 2017 Repeat the following year if necessary	April 2017	Head of Undergraduate Admissions Undergraduate Admissions Tutor	Increase to at least 40% the proportion of female undergraduates admitted by the department, from 2019.
4.1(ix)	Investigate the causes of the recent decrease in female taught postgraduate students. In particular, compare gender ratios for admissions of postgraduate students to the department, STOR-i and the Data Science Institute.	In 2015, as the Data Science Institute opened, there was a drop in the proportion of female MRes students admitted to STOR-i. We wish to understand the drivers behind this drop and see if the correlation is significant.	An understanding of the causes of the drop in the proportion of female to STOR-i MRes students.	January to October 2017	November 2017	Postgraduate Admissions Tutors	Recover an even gender balance in STOR-i MRes students, from 2018.

4.1(x)	Academic Tutor Coordinator to instruct Academic Tutors to encourage their suitable female tutees to consider postgraduate research studies.	The proportion of female applicants for postgraduate research degrees is low.	Increased applications from female students for postgraduate research study.	Biannually, at the start of Michaelmas and Lent terms	Each October	Academic Tutor Coordinator	Increase to at least 40% the proportion of female postgraduate research students, from 2019.
4.1(xi)	Add website case studies of successful female PhD students. Include explicit mention of an individual Peer Tutor for every student (action 4.1(xiii)).	To encourage women to apply, we will provide concrete examples of successful female PhD students. To show our department is committed to a supportive environment, we will outline the Peer Tutor system.	Increased applications from female students for postgraduate research degrees.	November 2016 to March 2017. To be updated every three years	From October 2018	Webmaster	Increase to at least 40% the proportion of female postgraduate research students, from 2019.

4.1(xii)	(a) Compare gender ratios for postgraduate Open Day attendance and admissions. (b) Analyse feedback from postgraduate Open Day participants who choose not to apply to Lancaster. (c) Analyse feedback from those who accept a place but then drop out before starting a postgraduate degree at Lancaster.	The number of female postgraduate students admitted is low. We need to understand the reasons, to improve the gender balance in our postgraduate population. As for undergraduates, comparing with the gender ratio of those attending Open Days should reveal if the leakage occurs between Open Days and admissions, or elsewhere. At postgraduate level, losses occur between acceptance and registration. We need to understand the reasons for this and so rectify our recruitment strategy.	(a) A comparable gender ratio for those attending postgraduate Open Days and those applying (b) An engaging Open Day programme, to encourage female applicants in particular. (c) A more effective recruitment strategy.	January to October 2017 Repeat the following year if necessary	From October 2018	Postgraduate Admissions Tutors	Increase to at least 40% the proportion of female postgraduate research students, from 2019.
4.1(xiii)	Allocate a Peer Tutor to each new PhD student.	Students prefer to discuss some matters with their peers rather than their supervisor. Allocating a third-year PhD student to every new starter will provide peer support and immediate access to the department's friendly PhD community.	Ensured retention and completion for postgraduate research students.	From October 2010 (STOR-i); from October 2016 (the whole department)	Through periodic PhD appraisals	Postgraduate Research Admissions Tutors	100% retention and completion rates for postgraduate research students, from 2017.

4.2(i)	Actively engage with the University's promotions committees, and work with them towards a fairer and clearer promotions policy, particularly for part-time and support staff.	Our surveys show that some staff perceive a lack of clarity and possible bias in the promotion process. This may have led staff, including established female academics, to leave. As promotions are not in the gift of the department's senior management team, we need to engage with the university to improve the situation.	Improved retention of female academic staff. Increased numbers of female staff applying for promotion. Increased numbers of female members of staff in senior posts.	From January 2017	Annually at the end of the promotions cycle	Head of Department	100% retention of female academic staff. Increased proportion of female staff in senior academic posts, at least at the national benchmark by 2020.
4.2(ii)	Collect written feedback from leavers.	To understand the reasons why staff leave the department; at present, information is scarce and often speculative.	Understanding of the drivers which result in staff leaving the department, and so a strategy to ameliorate this.	From November 2016	Summer 2018	Department Administrator	100% retention of female academic staff.
5.1(i)(a)	When advertising for academic posts, (a) contact at least four potential female candidates individually, and (b) distribute the advertisement via the European Women in Mathematics mailing list.	The number of female applicants is disproportionately small at present, especially for senior posts.	Increased proportions of female applicants and of shortlisted female applicants	From November 2016	After each interview panel	Head of Department	Increase to 25% the proportion of female shortlisted applicants.

5.1(i)(b)	Reword advertisements to make them more attractive to female applicants.	The standard format used presently by the department does not emphasise various family-friendly policies and benefits.	Increased proportion of female applicants	From November 2016	After each interview panel	Head of Department	Increase by 10 percentage points the proportion of female applicants
5.1(i)(c)	Collect and analyse feedback from applicants who are offered a post but then decline.	Several recent applicants have declined the offer of an academic post, from RA to Chair.	Understanding of why applicants choose not to join the department, and so a strategy to prevent this.	From November 2016	Every three years	Department Administrator	At least 80% of offers are accepted.
5.1(ii)	Ensure all mentors attend the dedicated university's training for reviewers.	The role of mentor is important for staff induction and progression. It is therefore crucial that mentors are able to provide guidance, encouragement and advice to their mentees.	Staff members well supported throughout their professional progression.	From November 2016	At their annual PDR	Head of Department	100% of mentors undertake training within the year they are appointed.
5.1(iii)(a)	Extend membership of the department's promotions committee to include female members of staff at Senior Lecturer level and above, and a female professor from another Lancaster department.	The committee includes only professors at present, and there is no woman professor in the department. Enlarging the committee in this way will bring a complementary view to promotion cases.	Increased numbers of female staff promoted.	From November 2016	Annually at the end of the promotions cycle	Head of Department	Increased proportion of female academics at Senior Lecturer of above, to at least the national benchmark by 2020.
5.1(iii)(b)	Instruct reviewers to discuss progression during the PDR.	Survey responses show that too few staff have a strategy for career advancement, especially promotion.	Increased numbers of staff applying for promotion. Staff members well supported throughout their professional progression.	From November 2016	Annually at the end of the promotions cycle	Head of Department	Applications for promotion to increase by 10 percentage points by 2018. At least three members of staff promoted to Professor by 2021.

5.1(iii)(c)	Encourage academic staff to participate to the university's *Making Professor* event.	At present, too few academic staff take the opportunity to attend this event, aimed at fostering their career advancement.	Increased proportion of academic staff working towards a Chair.	Biennially from Summer Term 2017	Biennially from December 2017	Head of Department	At least 20% of eligible staff to attend.
5.1(iv)	Provide appropriate support, including additional discretionary funds, to ensure all academic staff can participate in conferences and external events. Encourage staff to apply for childcare grants.	Academics must engage with the community to develop and progress. Some individuals may need additional support in order to travel.	Increased research activity, including publications, external collaborations and participation in and organisation of conferences and workshops.	Ongoing	Annually at the end of the financial year	Head of Pure Mathematics Head of Statistics	All academic staff to be research active and suitable for submission to the next REF.
5.3(i)	Conduct training sessions for early career staff on writing grant proposals.	Obtaining grant income is increasingly important for academic staff and their promotion prospects.	Increased number of applications for external research funding from early career staff. Improved success rates.	From November 2016	Biennially from Summer 2018	Head of Research	From 2017, all new academic staff to apply to the EPSRC First Grant scheme. The success rate to be at least 50%.
5.3(iii)	Develop a department-specific ATLAS programme to complement the PG Certificate in Academic Practice.	PGCAP is only available to early-career staff. Survey responses showed demand for a departmental scheme to help other academic staff gain HEA fellowship; this or an equivalent is now required for promotion.	Increased number of academic staff with HEA fellowship. Improved teaching quality and NSS results.	From Lent Term 2017	Annually from Summer 2018	Head of Undergraduate Teaching	At least 75% of academic staff to have HEA fellowship or an equivalent qualification, by 2021.

5.5(iii)(a)	Develop a departmental policy to provide additional research time for staff returning from maternity, parental or adoption leave.	At present, there is no policy to amend workloads for staff returning from leave.	A policy agreed by the department's Policy and Resources Committee, in consultation with the University's Human Resources department.	January 2016	January 2017	Head of Department	Introduction of this policy, publicised to all staff and documented in the staff handbook.
5.5(iii)(b)	Encourage academic staff returning from maternity, parental or adoption leave to make use of a department fund of £3000 per year to support re-engagement with research.	Staff returning from leave may need assistance to re-connect with the research community, while resuming teaching and other duties.	Increased number of applications for such funding.	Ongoing	Annually each September	PDR reviewer	All such staff to produce at least one research output within eighteen months of their return.
5.5(iii)(c)	Provide explicit guidelines in the staff handbook for staff transitioning from part time to full time.	No such guidelines exist at present.	Clear guidelines, with input from Human Resources, and an appropriate strategy for transitions from part time to full time.	Lent Term 2017	Summer Term 2017	Head of Department and E&D Chair	A comprehensive statement in the staff handbook, emphasising fair treatment of all staff and in line with university-wide policies.
5.5(iv)	Ensure that non-credited tasks undertaken by part-time staff are proportional to their percentage of employment.	As noted in the department survey, our workload model accounts for part-time status, but the allocation of non-credited tasks may not.	A departmental policy on non-credited jobs.	January 2016	January 2017	E&D Chair	Part-time staff are allocated non-credited tasks in a proportionate manner.
5.6(v)	Review the department workload model, with particular attention to teaching and gender bias.	Survey responses show that a large percentage of the department feels teaching workload allocation could be fairer. A gender-bias analysis of the workload model has not been carried out previously.	A fairer allocation of workload.	November 2016 to Lent Term 2017	Summer Term 2017	A working group with members from both Pure Mathematics and Statistics, and at least one female member.	At least 75% staff satisfaction with the model, as assessed by departmental survey.

6.1(xxi) (a)	Reform membership of Research Committee to include early career staff, at least one of whom should be female.	Membership of the Research Committee is not sufficiently representative of the department at present.	More diverse representation on the committee, leading to inclusive decision making.	November 2016	Summer Term 2017	Chair of Research Committee	The presence of such staff on the committee.
6.1(xxi) (b)	Ensure PDR reviewers communicate the benefits of internal and external committee membership for the development of academic leadership and promotion prospects.	Membership of internal and external committees is beneficial to both the individual and the department. Improved mentoring should increase the diversity of this membership.	Increased awareness of the benefits of developing academic leadership. Increased number of staff taking roles on external committees.	From November 2016	Annually from Summer Term 2017	Head of Department	At least 30% of staff with external roles. Gender balance on departmental committees in line with the overall gender balance of the department.

LANDSCAPE PAGE

If you require a landscape page elsewhere in this document, please turn on SHOW/HIDE  and follow the instructions in red. This text will not print and is only visible while SHOW/HIDE is on. Please do not insert a new page or a page break as this will mean page numbers will not format correctly.