



Athena SWAN Bronze department award application

Name of university: *University of Essex*

Department: *Department of Mathematical Sciences (DMS)*

Date of application: *November 2016*

Date of university Bronze and/or Silver SWAN award: *Bronze Award in September 2013*

Contact for application: *Dr Xinan Yang*

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Departmental website address:

Athena SWAN **Bronze Department** awards recognise that in addition to university-wide policies the Department is working to promote gender equality and to address challenges particular to the discipline.

Not all institutions use the term 'department' and there are many equivalent academic groupings with different names, sizes and compositions. The definition of a 'department' for SWAN purposes can be found on the Athena SWAN website. If in doubt, contact the Athena SWAN Officer well in advance to check eligibility.

It is essential that the contact person for the application is based in the Department.

Sections to be included

At the end of each section state the number of words used. Click [here](#) for additional guidance on completing the template.

Notes on Application

Abbreviations used throughout the document:

AS	Athena SWAN
ASE	Academic Staff primarily with Education Responsibilities
ASER	Academic Staff with Education and Research Responsibilities
ASR	Academic Staff primarily with Research Responsibilities
DoE	Director of Education
DoM	Director of Marketing
DoR	Director of Research
DoPGT	Director of Postgraduate Taught
DoPGR	Director of Postgraduate Research
DMS	Department of Mathematical Sciences
EDD	Employability & Development Director
E&D	Equality and Diversity
FTE	Full-time equivalent
GEM	Gender Equality Charter Mark
GTA	Graduate Teaching Assistant
HEA	Higher Education Academy
HESA	Higher Education Statistics Agency
HoD	Head of Department of Mathematical Sciences
HR	Human Resources
LMS	London Mathematical Society
PDR	Personal Development Review
PGR	Postgraduate Research
PGT	Postgraduate Taught
SAT	Self-Assessment Team
STEM	Science, Technology, Engineering and Maths
UG	Undergraduate
WAM	Workload Allocation Model
WIMS	Women in Mathematical Sciences website
WISE	A campaign to promote Women In Science, technology and Engineering

Throughout this application we are using the most recent figures that were available at the time of writing each section. The data is presented by academic year 2012/13, 2013/14, 2014/15 and labelled 2012, 2013 and 2014 respectively if presented by calendar year. Please note that when we describe our current data, this refers to the academic year 2015/16. When we state 'our most recent staff survey' we are referring to the latest questionnaire undertaken in June 2016 as part of this application.

When we refer to the Athena Swan (AS) Bronze Award we are referring to the University's institutional Bronze Award that we received in September 2013. The University is also a WISE member and has achieved a Gender Equality Charter Mark (GEM) in November 2014.

Key to Symbols used in the document:

Throughout the self-assessment process, we identified current good practice, implemented actions to improve gender equality following the University's Bronze SWAN award, and identified areas for improvement to future work (as detailed in our Action Plan). These have been labelled throughout the document as follows:

- ✓ Good practice that is currently operational to support and encourage gender equality in DMS.
- ★ Good practice we are working towards and included in the Action Plan

1. Letter of endorsement from the head of department: maximum 500 words

An accompanying letter of endorsement from the head of department should explain how the SWAN action plan and activities in the Department contribute to the overall department strategy and academic mission.

The letter is an opportunity for the head of department to confirm their support for the application and to endorse and commend any women and STEMM activities that have made a significant contribution to the achievement of the Departmental mission.



University of Essex

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TO WHOM IT MAY CONCERN

Letter of endorsement of the AthenaSWAN Bronze Award application lead by Dr Xinan Yang, Department of Mathematical Sciences, University of Essex, UK

29 November 2016

I am delighted to endorse our *AthenaSWAN (AS) Bronze Award application* lead by my colleague Dr Xinan Yang. The Department of Mathematical Sciences (DMS) is committed to promoting a positive and inclusive working environment for all our colleagues.

As new Head of Department I have introduced an *Equality Budget* to support the AS process and aim to use *gender/equality budgeting* as a supportive tool and to make sufficient resources available in general. Being aware of the underrepresentation of female academics at senior positions the department *aims to attract and to promote female academics* by providing a supportive environment aiming to identify and to overcome disadvantages.

Moreover, in support of the aims of AthenaSWAN I have introduced *twelve weeks (seven over the summer, two over Christmas and three over Eastern)* without unnecessary admin duties supporting all staff members to take twice a year two to three weeks annual leave without job related interruptions.

We schedule our DMS meeting, Education or Research Away Days from 1 pm and aim to finish by 4.30 pm (latest). Taking on board suggestions of the AS process I will suggest to timetabling and lobby for the next academic year that we have no scheduled lectures between 10 am and 2 pm on Wednesdays allowing to arrange our meetings and committees during *AS indicated core hours*.

We have transformed our seminar room to the new *Departmental Common and Meeting room* to support and to grow our *Essex Mathematical Sciences community of alumni, friends, students and staff*. We provide budgets to support the offer of meaningful social meetings for all year cohorts of our students including 'our' foundation year students of the International Academy.

The department aims to provide the best possible environment for (gender) equality at all stages of careers, from undergraduates all the way to professors and senior management.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Berthold Lausen'.

(Professor Berthold Lausen)

2. The self-assessment process: maximum 1000 words

Describe the self-assessment process. This should include:

- a) A description of the self assessment team: members' roles (both within the Department and as part of the team) and their experiences of work-life balance.

The Self-Assessment Team (SAT) initially consisted of 14 members of staff, 6 women and 6 men representing various grades within the Department of Mathematical Sciences (DMS), supported by 2 female staff from Human Resources (HR). Half way through this application process the SAT was altered with one male and one female member of staff leaving the group and one male joining, based on workload and sabbatical arrangements for those individuals. The SAT consists of individuals who work full-time, part-time, or flexibly, from dual career families, with current or past childcare responsibilities. There is representation from those involved with the Department's recruitment and promotion processes and those with Departmental and University management responsibilities. 2 members of the team are postgraduate research students who also act as teaching assistants.

Words: 127 (excl Table)

Table 1: Self-Assessment Team members

Member	Role	Profile	Responsibility in SAT
Dr Xinan Yang (Lead)	Lecturer in Operational Research	Xinan was appointed as a lecturer in Oct 2013 (under probation) and recently returned from a six month maternity leave period. In addition to research and teaching, she is the Department's Study Abroad Officer, deputy Graduate Director and Parent Mentor. She is in a dual-career family with a one year old child, and brings the perspective of a female academic managing childcare and full-time work.	Coordinated SAT activities and analysed data.
Gokce Caylak	Full time PhD student	Gokce has a part-time job as a Graduate Teaching Assistant in the Department. She is married without children.	Analysed on student data and contributed to department culture.
Professor Edward Codling	Professor of Mathematical Biology	As well as being an active researcher with several ongoing funded projects and a number of PhD students, Edward is currently responsible within the Department for developing undergraduate student employability and also for undergraduate admissions. He has four children (three at pre-school age) and supports his wife who is a full time mother. He has direct experience of the challenges of maintaining work-life balance while simultaneously supporting a large family and maintaining an active research group.	Surveyed into flexible working and career breaks.
Julia Greenwood	SWAN Institutional Lead	Julia has recently been involved in reviewing the University's work life balance policy and currently works part-time following maternity leave. She also co-ordinates the University's Women's and Parents' Networks.	Worked with the Department by supporting the Lead, attending SAT meetings, sharing best practice information, monitoring progress and ensuring the final submission met the criteria.

Dr Haslifah Mohamad Hasim	Lecturer in Actuarial Science	Haslifah teaches Financial Mathematics and Mathematics of Portfolio to undergraduate and postgraduate students. She is married with a son (age 5) and her husband is in full-time employment.	Collated information for WIMS webpage.
Professor Berthold Lausen	Professor of Statistics and (former) Director of Research/ (current) HoD	In addition to his roles in education, research and management of the Department, Berthold serves as president-elect of the International Federation of Classification Societies (IFCS), vice-president of the European Association for Data Science (EuADS) based in Luxembourg and president of the Gesellschaft fuer Klassifikation (GfKl) Data Science Society registered in Frankfurt a. M. He holds EU-27 citizenship as does his partner who currently lives and works in Germany.	Contributed to data analysis. Brought the perspective of senior academic staff to the SAT.
Katherine Parker	HR Manager	Katherine returned from maternity leave to a part-time role in August 2016. She is the HR Manager for the faculty and works on policy development. She was involved in the University's application for the Bronze award.	Attending SAT meetings. Supported the final stages of the DMS submission.
Dr Christopher Saker	Senior Lecturer in Mathematics	Chris is the Director of Education in the Department and also a Central Coordinator for the Further Mathematics Support Programme. He is in a dual-career marriage with two young children.	Coordinated work on flexibility and career breaks.
Professor Abdellah Salhi	Professor of Operational Research/ former HoD	After nearly two mandates as HoD, Abdel is currently on study leave. He is research active with a number of ongoing funded research projects. He is married with three children, two of whom are university graduates in work; the youngest in secondary education. Both he and his wife worked while their children were growing up. During his first term as HoD, the low level of staffing in the DMS meant that he had to take on a full teaching load and so he has first-hand experience of the challenges of balancing this with family life.	Nominated the AS lead and supported several meetings in early stages.
Alex Seabrook	Faculty Manager, Faculty of Science and Health	Alex is involved in Athena Swan submissions across the Faculty of Science and Health, enabling sharing of good practice between departments. Her perspective is that of a female Professional Services staff member who changed career and moved from full-time permanent working to freelance, fixed-term and part-time contracts to allow her to share care of her daughter, now 16 years old, with her husband.	Represented the "Faculty view", commented on drafts and supported meetings.
Birsen Irem Selamoglu	Full-time PhD student	Irem also works as a Graduate Teaching Assistant (GTA) in the Department.	Contributed to the student data analysis and organisation and culture sections of this application.

Dr Alexei Vernitski	Senior Lecturer in Mathematics	In addition to teaching and research, Alexei was the Department's Exam Officer and Academic Offences Officer (2015-16). Alexei is in a dual-career marriage with a 4 year old child, and he and his wife went through 6 miscarriages and 1 stillbirth.	Led the organisation and culture part of the application.
Dr Spyridon Vrontos	Senior Lecturer in Actuarial Science	In addition to research and teaching, Spyridon is also the Placement Officer, deputy EDD and the Director of Marketing (DoM) for the Department. He is living with his civil partner (Katerina) and has one child.	Worked on key career transition points and career development.
Claire Watts	Department Manager	Claire heads up the administrative team in the Department of Mathematical Sciences. Away from the University, she plays first violin in a professional-level chamber orchestra and string quartet.	Worked on key career transition points and career development.
Dr Gerald Williams	Senior Lecturer in Mathematics	With research interests in pure mathematics, Gerald has taught across the range of the Mathematics curriculum. He has held a range of administrative positions in the Department such as Director of Research, Admissions Selector, Study Abroad Officer and Exams Offices.	Led the part of the application that concerns supporting and advancing women's careers.

- b) an account of the self assessment process: details of the self assessment team meetings, including any consultation with staff or individuals outside of the university, and how these have fed into the submission.

The DMS has been interested in the work of Athena SWAN since 2013 and gender equality has regularly been discussed at termly departmental meetings and in our strategic plan. After the significant expansion of the Department during 2013-2015, Dr Xinan Yang was nominated by the HoD to lead the Department application. The University considers this a departmental leadership responsibility in relation to permanency and probation criteria. As a probationary employee Xinan was supported by a mentor, Dr Williams. To recruit SAT members an email was sent to all staff asking them to nominate themselves. The HoD then selected staff and students based on their relevant experience and career levels to ensure a diverse group.

The SAT was formally convened in March 2016 renewed its membership in September 2016. Members first met in April 2016 and then every month thereafter until submission and beyond. The SAT consists of four subgroups (Table 2) which each focused on different areas of the application, meeting more frequently as necessary to discuss and work jointly on specific sections such as data analysis or reviewing workload models. Each member was also tasked with assessing the Department's practices and procedures against the AS Good Practice Checklist.

Table 2: Subgroups and focus areas

Subgroups	Focus	Section(s) in application	Lead
Subgroup 1	Student/staff data analysis	Section 2 and 3	Dr Xinan Yang
Subgroup 2	Career transition & development	Section 4.1	Dr Gerald Williams
Subgroup 3	Organization and Culture	Section 4.3	Dr Alexei Vernitski
Subgroup 4	Flexibility and career breaks	Section 4.4	Professor Edward Codling



Figure 1: Photo of one Self-Assessment Team meeting in Oct 2016

The SAT organised a number of events to assess the Department's position on gender equality. In June 2016, the SAT conducted Staff and Student Surveys to understand how individuals experienced their work/study environment and what improvements were needed to ensure equality of opportunity. However, due to overlapping with the examination period, the Student Survey response rate (12%) was below the threshold considered representative of the population surveyed and therefore results were not included in this submission. Key issues for the staff survey were the perceptions of our recruitment and promotions processes, the effectiveness of staff appraisal, and awareness of/access to support available. Staff surveys results (response rate 90% - above the threshold considered representative of the population surveyed) were incorporated into the relevant sections of this submission. A separate short survey was carried out by subgroup 4 in order to understand flexible working patterns that are not fully informed by the central data. Feedback from all surveys and focus groups has informed the Action Plan. All SAT members, the Faculty Executive Dean and the University SWAN Steering Group have reviewed and given feedback on the Department's practice and the application. Additional university supports, such as the possibility of offering a Faculty Focus Group on unacceptable behaviour, have been discussed based on the observations reported in the application.

The SAT lead, Dr Xinan Yang, has attended events under the London Mathematical Society (LMS) Good Practice Scheme, developed by the Society's Women in Mathematics Committee and has used these as a source of support and guidance. Xinan has also joined the University's Parents' Network and supported the working parents in the DMS as a parent mentor. Xinan has further consulted and supported to the Essex SWAN user group that facilitates all Departmental SWAN leads at Essex (Biology, HHS who had achieved Bronze and Psychology, History, CSEE who were applying for Bronze) to discuss gender issues and share good practices. The SAT has also developed links and consulted with other SWAN leads/authors internally and externally for feedback on the application (E.g. Professor Gill Green (School of Health and Human Sciences), Dr Corinne Whitby (School of Biological Sciences), Professor Simon Neil Chandler-Wilde (University of Reading)). The University Athena SWAN Lead (Julia Greenwood) and DMS Lead (Xinan Yang) regularly attended regional SWAN meetings and shared best practice with the SAT.

Name: Xinan Yang

Job title: Lecturer in Operational Research

Place of work: Department of Mathematical Sciences

Contact details: xyangk@essex.ac.uk



Profile: Xinan was appointed as a lecturer in Oct 2013 and recently came back from a 6-months maternity leave. In addition to research and teaching, she is the Study Abroad Officer, Deputy Graduate Director and Athena SWAN lead in Department of Mathematical Science. She is in a dual-career family with a 1 year old child who goes to nursery three days a week. Her husband works under a flexible scheme which allows him to take care of the child in two weekdays and work on Saturday instead. She had pleasant experiences of taking maternity leave and found the HoD and HR very supportive and helpful.

Xinan's top tips for working parents:

- Talk to the HoD at early stage of your pregnancy especially if you are teaching, so the department has enough time to find a cover and provide additional help. Dad and Mum are equally important in taking care of children at all ages. See what your partner's employer offers in terms of flexible working as well.

Figure 2: Screenshot of Dr Xinan Yang's parent mentor profile

Words: 584

- c) Plans for the future of the self assessment team, such as how often the team will continue to meet, any reporting mechanisms and in particular how the self assessment team intends to monitor implementation of the action plan.

The SAT will meet termly to monitor progress against the action plan, promote the SWAN agenda and plan future activities. Oversight of implementation of the action plan will be the responsibility of the Lead and the individual subgroups, each with responsibility for specific areas and actions.

Actions:

✓ **Action 1.2:** Review and refresh SAT membership annually and record on the Work Allocation Model (WAM). The group will also be updated to include professional services/support staff in view of the new SWAN requirements.

★ **Action 1.3:** Bring reports from the Department's Athena SWAN SAT as a standing agenda item at departmental meetings.

★ **Action 1.4:** Monitor Staff and Student data annually and report to the relevant Department and University committees.

★ **Action 1.4:** Carry out Student and staff surveys annually. Results will be used to monitor progress and revise the action plan as appropriate. Surveys will be carried out at suitable times to maximise the response rate.

★ **Action 1.7:** Use the available DMS Equality budget (£2,500 in 2016/17) to implement equality/gender actions, e.g. organising/attending AS events, establish a formal award for the best performed female students, support female's research/educational visits, etc.

Words: 191

Total words count Section 2: 902

3. A picture of the Department: maximum 2000 words

- a) Provide a pen-picture of the Department to set the context for the application, outlining in particular any significant and relevant features.

The Department of Mathematical Sciences (DMS) is one of the founding departments of the University of Essex and one of five Schools/Departments in the Faculty of Science and Health. DMS is a vibrant and expanding department, which is ranked in the Top 30 for the subject area in the 2017 Times Good University Guide, offering degrees in Mathematics with strong emphasis on Applied Mathematics, Statistics, Actuarial Science, Data Science and Operational Research. This diversity makes the Department dynamic and forward looking. We have recently invested substantially in Applied Mathematics and Actuarial Sciences. This is a major expansion move that will strengthen the University's position as an important player in the fields of business and finance. Our ambition is to offer attractive, useful and viable degree programmes that are challenging and inspiring to our students.

The Department has grown significantly in the last few years with the addition of seven new members (5 male, 2 female) of faculty. Currently, our academic staff consists of 4 Professors (male), 8 Senior Lecturers (male), 6 Lecturers (4 male, 2 female) and 5 part-time Lecturers (male). We also employ 1 Research Officer (male), 16 GTAs (7 male, 9 female), 209 undergraduates (109 male, 100 female) and 56 postgraduates (29 male, 27 female). Although we have a gender imbalance at all levels, we have made significant progress since before 2013 there were no female academic staff in DMS.

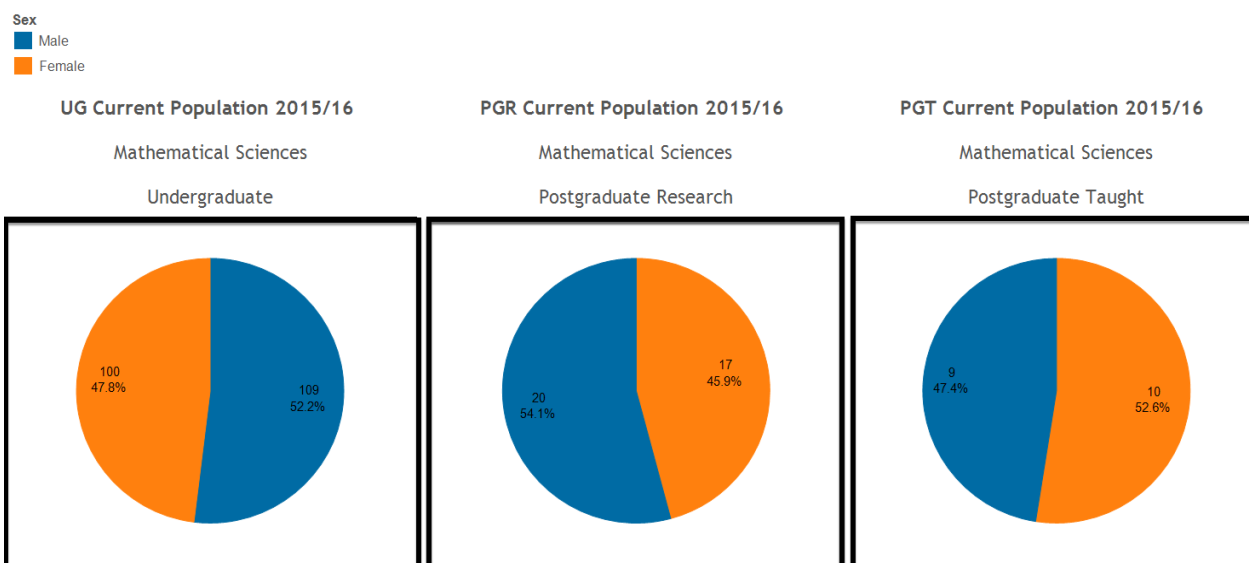


Figure 3: Current populations of undergraduate, postgraduate research and postgraduate taught students

With just 242.2 FTE registered students (201.6 UG, 15.7 PGT and 24.9 PGR), DMS is a small department, relative to others in the region and nationally. We have set ourselves ambitious objectives for development of our research, education and student numbers. Understanding students' needs and creating an inclusive environment for both male and female students are crucial in achieving this. To support our objectives, we recently launched our Advisory Board, and ensured high profile women were included, from academics such as Dr Catherine Hobbs who has been active in the London Mathematical Society Women in Mathematics Committee, to employers and alumni. In 2018 the Department will relocate to the University's new £1.2M STEM Centre which aims to provide a venue for outreach and education activities including those with a Women in STEM focus.

DMS is committed to equality and development of an inclusive culture promoting dignity and respect. We support staff throughout their careers ensuring a good work-life balance is maintained. We support and

mentor staff with career development via formalised PDRs. A Women in Mathematical Sciences (WIMS) webpage has been established to promote the Department's female staff with the intention of supporting recruitment, retention and career progression.

Actions:

★ **Action 1.5:** Promote the ethos of Athena SWAN throughout DMS. Raise awareness of equality in the Department via WIMS.

Words: 451

- b) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.

Student data

- (i) **Numbers of males and females on access or foundation courses** – comment on the data and describe any initiatives taken to attract women to the courses.

N/A

- (ii) **Undergraduate male and female numbers** – full and part-time – comment on the female:male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the impact to date. Comment upon any plans for the future.

Figure 4 and Figure 5 show the total number of undergraduate students both for the Department and for the UK, respectively. In general, the observed number of male students is higher than female students over the period 2012 to 2015. In the UK the percentage of female students is slightly decreasing, but the figure for the Department is increasing by roughly 4% per year. For 2015-16 we observed a further increase by 2%, which leaves a gap of 2% to achieve 50% for both genders.

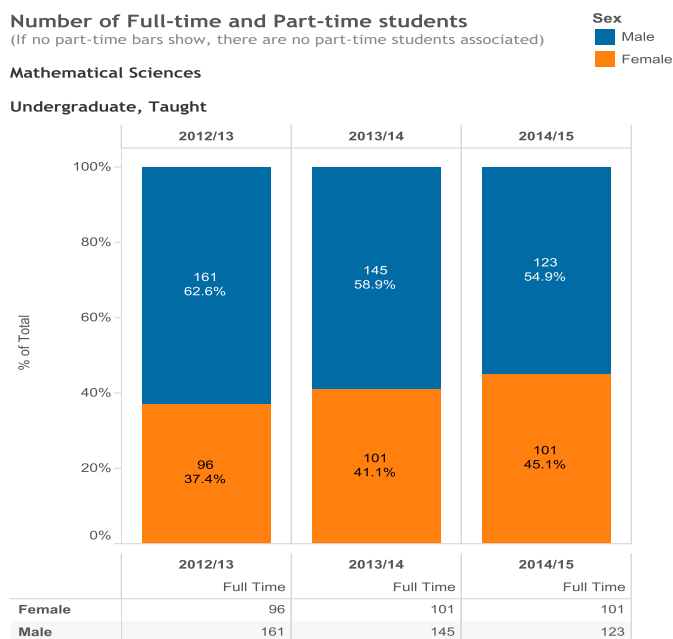


Figure 4: Full-time undergraduate students by gender in DMS

National Benchmark: HESA Data
 Number of Full-time and Part-time Students

(7) Mathematical sciences

First degree & Other undergraduate

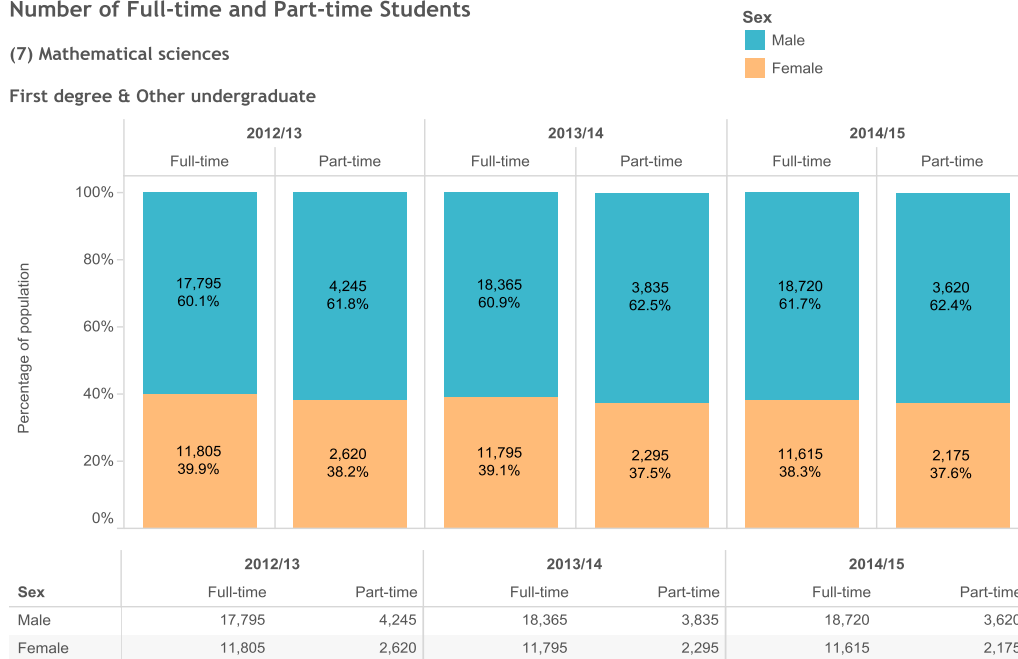


Figure 5: National picture of undergraduate students by gender

The female:male ratio for Undergraduate numbers within DMS is broadly inline than national trends. Indeed, in recent years the proportion of female undergraduate students within DMS is increasing. However, we will continue to promote women in mathematics at Essex to further encourage women to apply to study here.

Words: 133

- (iii) **Postgraduate male and female numbers completing taught courses – full and part-time – comment on the female:male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the effect to date. Comment upon any plans for the future.**

Figure 6 and Figure 7 illustrate the proportion of the postgraduate students in department, and in UK, respectively. Even though the proportion of female students in our department decreased between 2012 and 2015, the ratio of female students tends to be above the national averages for these types of courses. The number of female students is higher than male students among full-time postgraduate taught students in 2016.

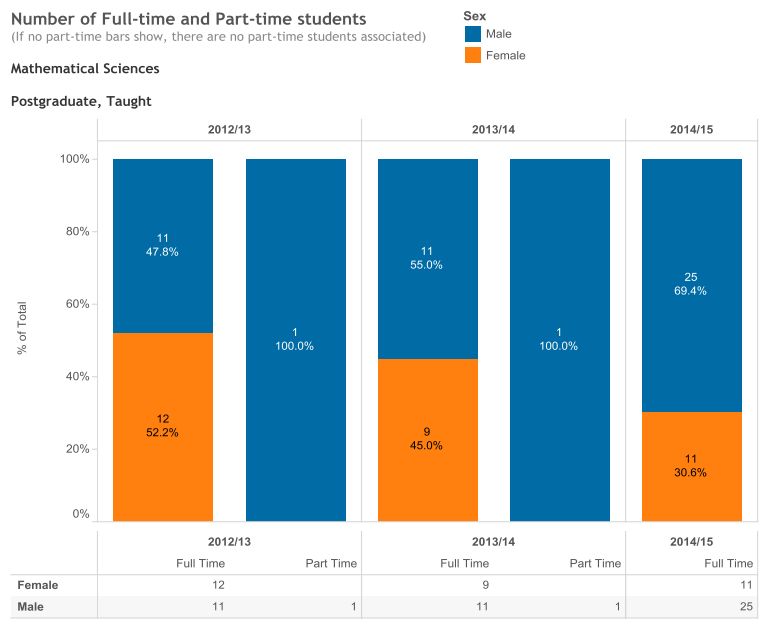


Figure 6: Students on postgraduate taught courses by gender in DMS

National Benchmark: HESA Data

Number of Full-time and Part-time Students

(7) Mathematical sciences

Postgraduate (taught)

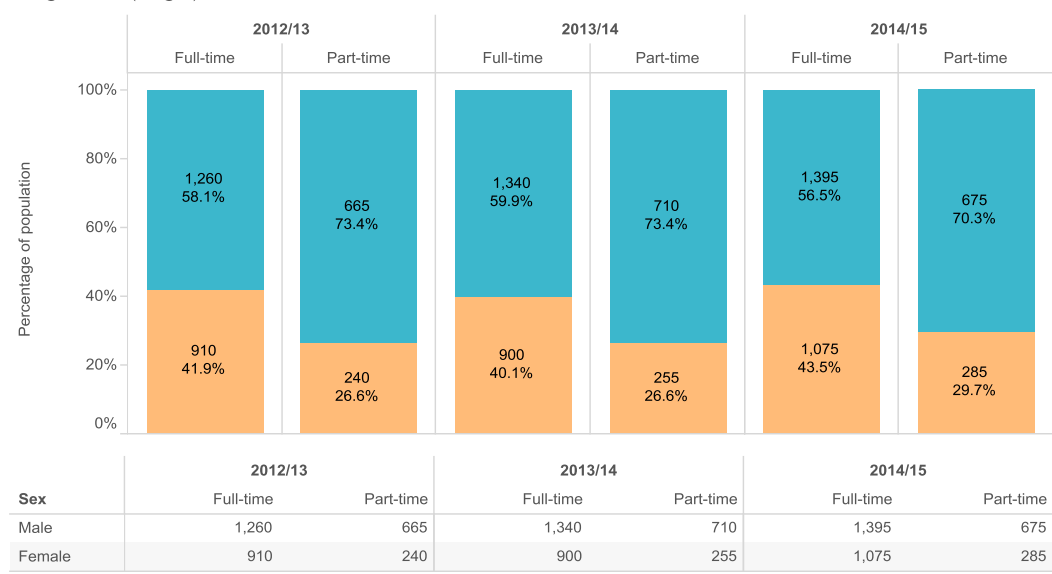


Figure 7: National picture of postgraduate taught students by gender

Words: 67

- (iv) **Postgraduate male and female numbers on research degrees – full and part-time – comment on the female:male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the effect to date. Comment upon any plans for the future.**

The proportion of part-time female students is higher than that of part-time male students. However, the number of full-time female students is less than the number of full-time male students in our department.

The ratio of full-time postgraduate research female students has remained fairly stable over the last three years at around 40% in our department and is higher than the national average which is about 30%. Charts show that the proportion of postgraduate (taught) female students is more than the proportion of postgraduate (research) female students in 2015/16.

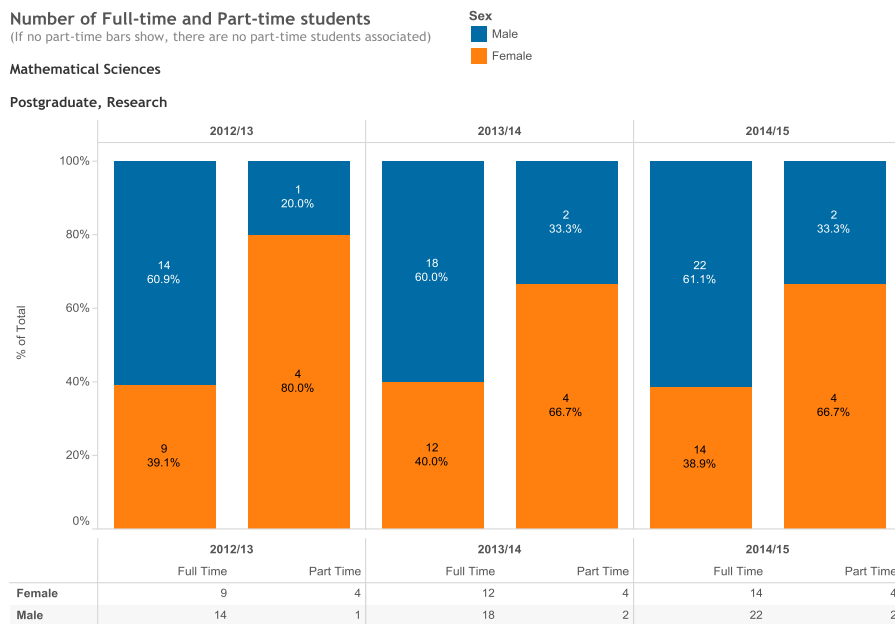


Figure 8: Students on postgraduate research courses by gender in DMS

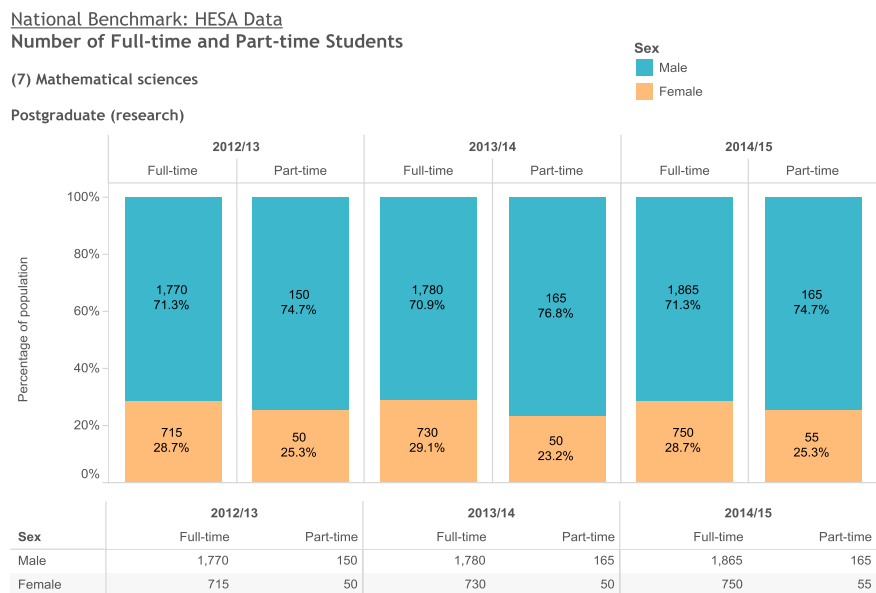


Figure 9: National picture of postgraduate research students by gender

Actions:

★ **Action 2.1:** Monitor and interpret UG/PG Recruitment Data annually. Benchmark the data with similar Maths departments as well as HESA standard.

Words: 112

- (v) **Ratio of course applications to offers and acceptances by gender for undergraduate, postgraduate taught and postgraduate research degrees – comment on the differences between male and female application and success rates and describe any initiatives taken to address any imbalance and their effect to date. Comment on any plans for the future.**

Undergraduate applications, offers and acceptances

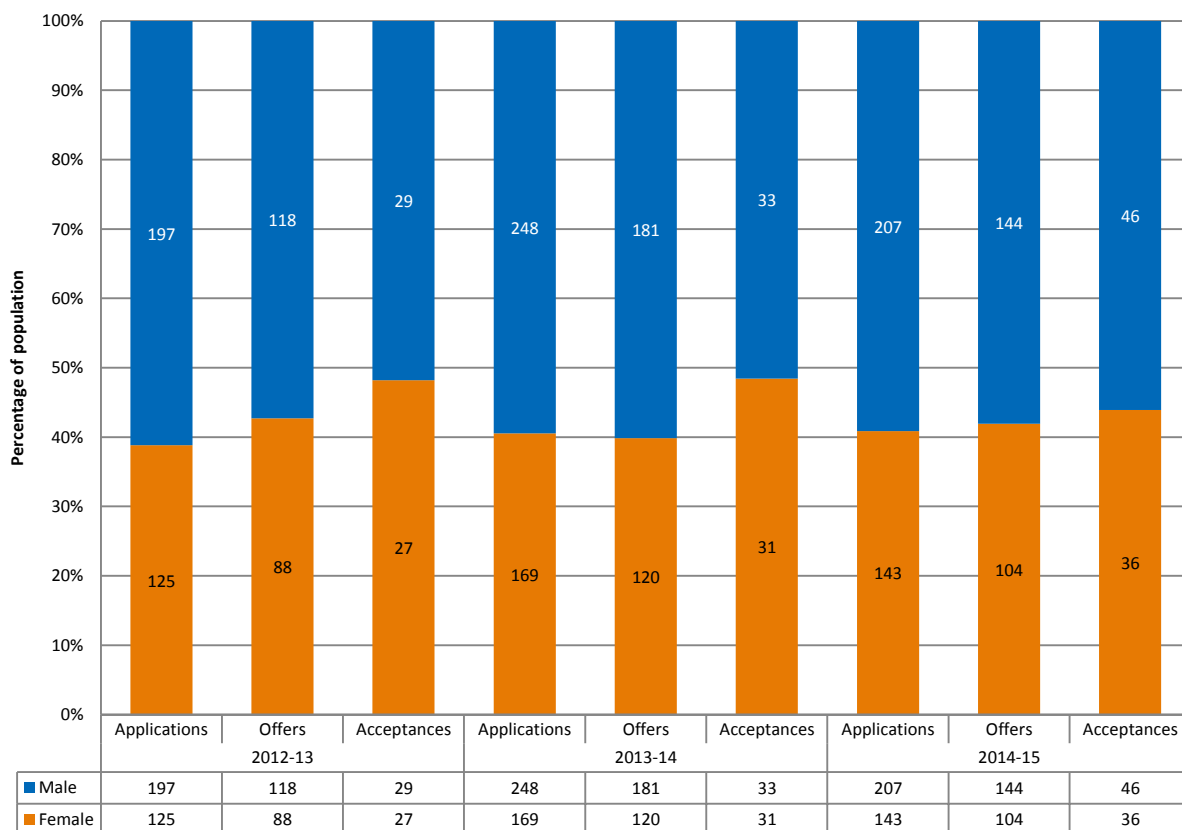


Figure 10: Undergraduate applications, offers and acceptances by gender

Figure 10 shows the number of undergraduate applications, offers and acceptances from 2012 to 2015. The number of applications made by male students is more than the number of applications from female students in all years. The total number of applications increased in 2013, however in 2014 it decreased by 16%. The number of acceptances for both female and male students increased every year.

Every year, approximately 72% of female applications met the criteria to get an offer. The acceptance rate reached 35% for women in 2014. The acceptance rate for women is consistently higher than for males.

Postgraduate Taught applications, offers and acceptances

The average number of applications for PGT courses is 257 each year. Like shown in Figure 11, the number of male and female applications roughly stayed the same, and female roughly constituted 38% of the total applicants.

Female students were more likely to get an offer in all years, which may indicate females were more conservative in making an application and therefore needed to be encouraged. The acceptance rate of female students is around 22%, which is slightly higher than that of males in 2012 and 2013. However, as the Department actively contacted all applicants with offers via email in 2014/15, the conversion rate significantly increased for male applicant to nearly 35% in that year whereas for females it stayed the same.

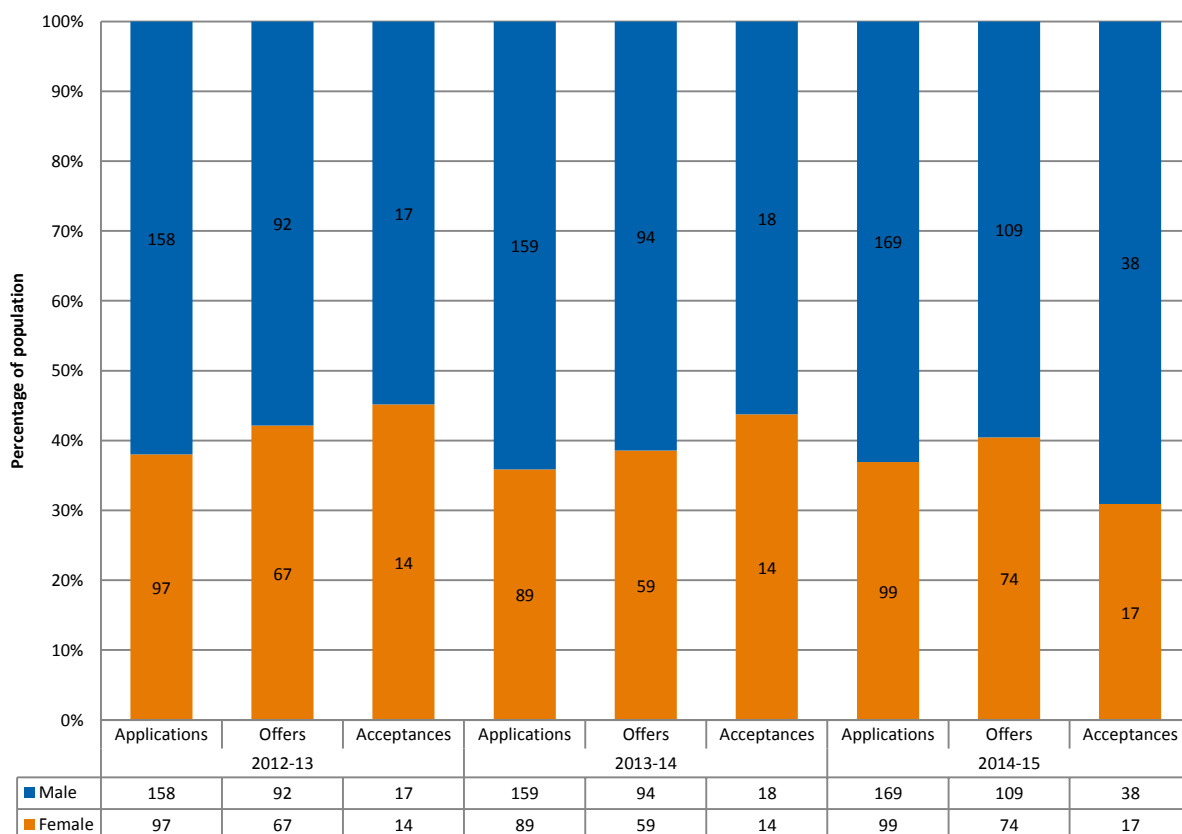


Figure 11: PGT applications, offers and acceptances by gender

Postgraduate Research applications, offers and acceptances

The total number of applications for PGR courses increased each year. The total number of applications by female students increased significantly in 2014. However, the total number of acceptances remained the same in 2013 and 2014. In all years, considering the percentage chance of getting an offer after application, more female applicants have met criteria to get an offer than male applicants.

30% of female students accepted their offers in 2013, whereas only 17% of male students accepted theirs. Even given this, the number of female acceptances can also be considered small.

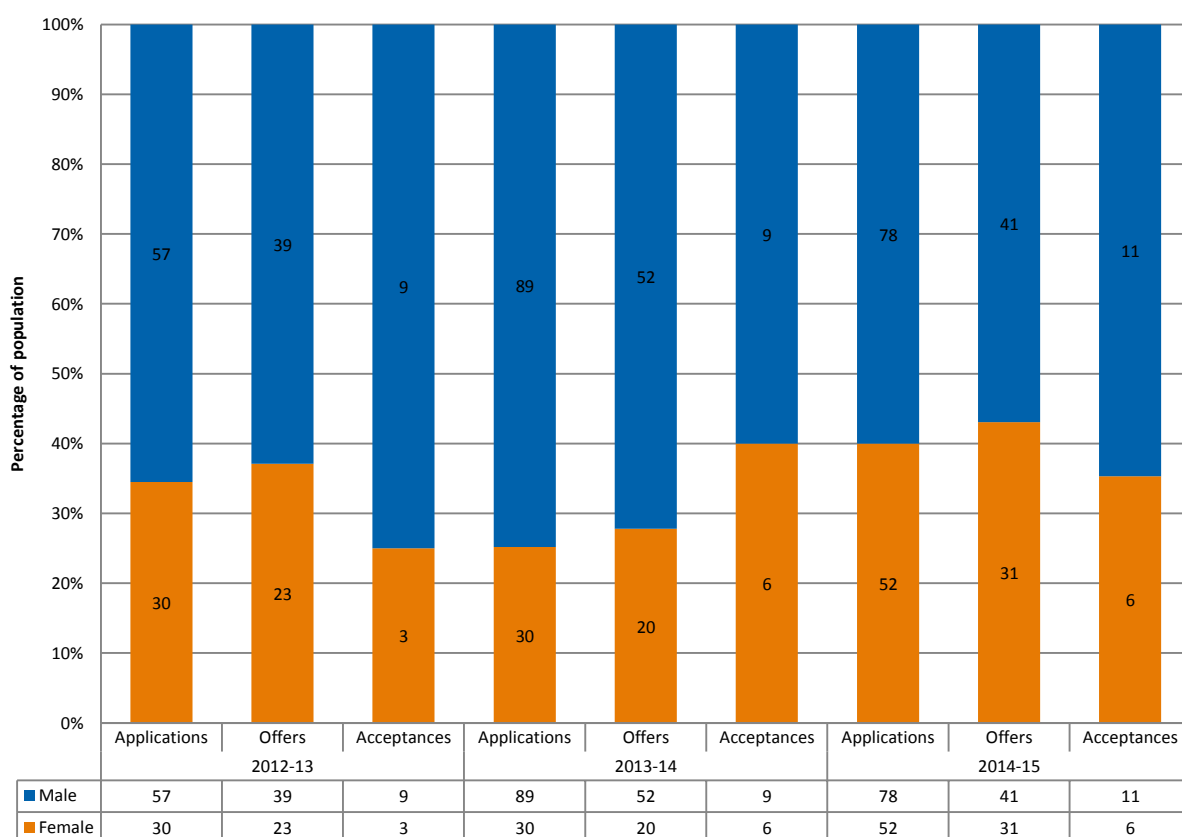


Figure 12: PGR applications, offers and acceptances by gender

Actions:

★ **Action 2.2:** Review our Open/Visit Day programme to ensure it appeals to both genders, particularly women.

★ **Action 2.3:** Review advertising of the MSc and PhD programmes. Ensure the wording is appropriately targeted to attract both men and women.

√ **Action 2.4:** Contact individual applicant that has been offered a place to understand their needs and concerns, so as to achieve higher conversion rate.

Words: 395

- (vi) **Degree classification by gender** – comment on any differences in degree attainment between males and females and describe what actions are being taken to address any imbalance.

Undergraduate results by gender

Figure 13 shows that the numbers of male students graduate with a good degree (first or upper second class) were higher than that of female in 2012-14. However, considering the smaller number of female undergraduates in general, females didn't perform worse than males in most cases. More than 90% (21 of 23) of female students achieved good degrees compared to 76% (28 of 37) of male students in 2014-15. This shows that undergraduates in DMS were better supported year by year.

Degree Outcomes of Full-time and Part-time students

(Where no part time bar show, there are no part time students associated)

Mathematical Sciences

Undergraduate

Male
Female



Figure 13: Undergraduate degree results by year

Postgraduate Taught results by gender

Completion of Full-time and Part-time students

(Where no part time bar show, there are no part time students associated)

Mathematical Sciences

Postgraduate, Taught

Male
Female



Figure 14: Postgraduate Taught degree results by year

Figure 14 shows PGT results by year for both full-time and part-time students. There were no part-time students in 2013/14. All students completed their degrees successfully in both 2012/13 and 2013/14. In 2014/15 there were three withdrawals and one failure. Part-time students all completed their degrees successfully.

Postgraduate Research results by gender

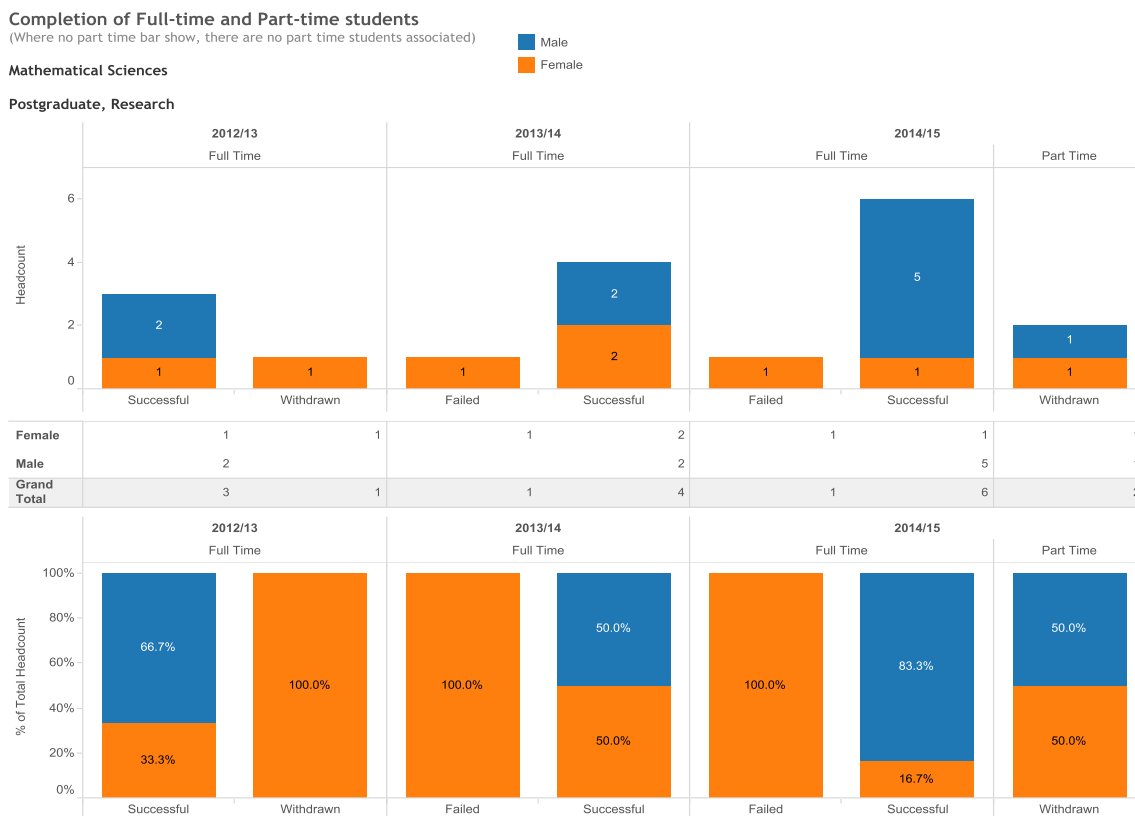


Figure 15: Postgraduate Research degree results by year

Figure 15 shows PGR results by year for both full-time and part-time students. All students were full-time in 2012/13 and 2013/14 and two (one male, one female) were part-time in 2014/15. The successful rates for male students were higher than that of females in all years. More than one third female students withdrawn or failed their research study in the period considered, which is of significant importance.

Actions:

★ **Action 2.5:** Encourage female PhD students and postdocs to attend networking events at departmental, university and national level and provide funding (from DMS Equality budget) and/or external funding information to facilitate this.

★ **Action 2.6:** Dig into the reason for high unsuccessful rates observed in female PGR study. Review the unsuccessful cases to understand the threshold and feedback on the Departmental practice.

Words: 273

Staff data

- (vii) **Female:male ratio of academic staff and research staff** – researcher, lecturer, senior lecturer, reader, professor (or equivalent). comment on any differences in numbers between males and females and say what action is being taken to address any underrepresentation at particular grades/levels

The DMS is quite small (18 full time academics) and currently there are only two female members of academic staff, which represents 11.11% of all staff (Table 3).

Table 3: Breakdown of staff numbers by gender and grade

Gender	Lecturer	Senior Lecturer	Professor
Male	3	9	4
Female	2	0	0

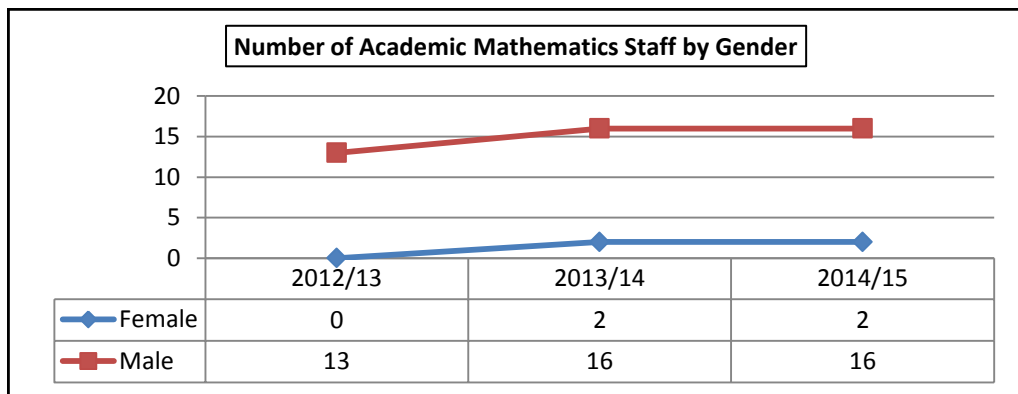


Figure 16: Number of Academic Mathematics Staff by Gender

Historically, the Department has been very male dominated but in 2013, two new female members of staff were recruited. This correlated with a focus on Actuarial Science within the Department, which has a higher percentage of women in the field. Women are under-represented at Senior Lecturer and Professor levels. New starters are placed on a three year probationary period and are unable to apply for promotion until they are made permanent. As both female members of staff are currently in probation, it will take time before this under representation can be influenced but by promoting the promotion criteria, providing mentoring support and training, it is aimed that this will change in the next few years.

Actions:

- ★ **Action 2.9:** Review the career paths of current male and female staff, and analyse the differences.
- ★ **Action 3.2 and 3.9:** Make use of the Women in Mathematics webpage to attract more female applicants. Keep it updated with the newest information on promotion, training and working flexible policies.
- ★ **Action 3.7, 3.8 and 3.12:** Ensure the mentoring system and Appraiser process work effectively in supporting permanency and promotion applications. Through the PDR process guidance will be given to staff about when they may be well placed to apply for promotion, having first been discussed at the Research and Education committees.

★ **Action 3.13, 3.14 and 3.16:** *Organize formal/informal events to encourage communications within lower levels and/or across levels to share experiences in career development.*

Words: 269

- (viii) **Turnover by grade and gender** – comment on any differences between men and women in turnover and say what is being done to address this. Where the number of staff leaving is small, comment on the reasons why particular individuals left.

No member of academic staff on a permanent contract has left the Department since 2012 although one male Senior Lecturer was appointed as the Faculty's Deputy Dean of Education and turned to work under a 20% contract with the DMS. Due to the Department being small in size, it is felt that turnover is so low because a supportive, friendly environment is maintained.

One female member of the admin team left and became the Department Manager of the Department of Sociology within the University.

Words: 84

Total words count Section 3: 1784

4. Supporting and advancing women's careers: maximum 5000 words

Key career transition points

- a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.
- (i) **Job application and success rates by gender and grade** – comment on any differences in recruitment between men and women at any level and say what action is being taken to address this.

The number of Applicants and Appointments to academic positions in the DMS in 2012/13, 2013/14, 2014/15 are summarised in Table 4 (Actuarial Science) and Table 5 (Mathematics).

Table 4: Applications and appointments to permanent positions in Actuarial Science

Hiring round		Applications			Appointments	
		Female	Male	Unknown	Female	Male
12/13	Lecturer/Senior Lecturer	11	17	0	1	0
13/14	Senior Lecturer	6	31	0	0	1
14/15	No vacancies	N/A	N/A	N/A	N/A	N/A

Table 5: Applications and appointments to positions in Mathematics

Hiring round		Applications			Appointments	
		Female	Male	Unknown	Female	Male
12/13	Lecturer/Senior Lecturer	31	172	2	1	2
	Research Officer	3	19	0	0	1
13/14	Temporary Lecturer	2	4	0	0	1
14/15	Lecturer	29	169	2	0	2

It is clear that positions in Actuarial Science attract a higher percentage of female applicants than positions in Mathematics. The Department has introduced a Women in Mathematical Science webpage (WIMS), one of its aims is to highlight the role women play in Mathematics at Essex and so we hope to increase the proportion of female applicants to both Mathematics and Actuarial Science positions as a result.

All staff sitting on panels or involved in recruitment decisions are required by the University to have completed online training in Recruitment and in Equality and Diversity. Further, all recruitment panels are required to have a gender mix. The university is planning to introduce mandatory Unconscious Bias training.

Like shown in Figure 17, the Staff Survey indicates that only 2/14 had not or did not know if they had undertaken training in Equality and Diversity. This contrasts with the situation for training in Understanding unconscious bias, where 9/14 has undertaken training and 5/14 had not or did not know if they had

undertaken such training. The Department therefore needs to remind staff of the requirement to undertake this training.

Q16 - I have undertaken training in:

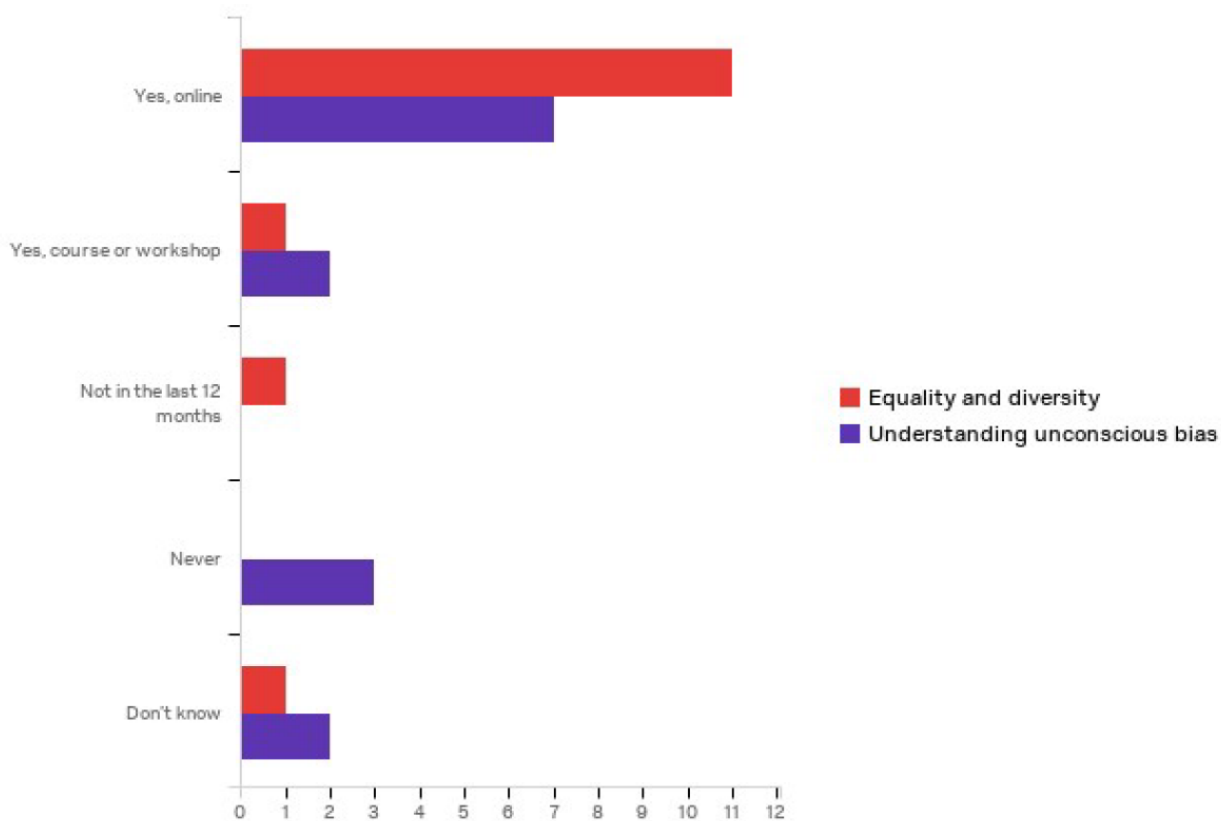


Figure 17: Staff survey result on question: "I have undertaken training in Equality and diversity/Understanding unconscious bias"

Actions:

✓ **Action 3.3:** Training in Unconscious Bias to be completed by all DMS staff by September 2017.

Words: 230

(ii) **Applications for promotion and success rates by gender and grade** – comment on whether these differ for men and women and if they do explain what action may be taken. Where the number of women is small applicants may comment on specific examples of where women have been through the promotion process. Explain how potential candidates are identified.

The number of Applicants and Awards of promotions and permanency in the DMS in the rounds 2012/13, 2013/14, 2014/15 are summarised in Table 6 (promotion) and Table 7 (permanency).

Table 6: Applications for promotions within the DMS

		Applications			Promotions	
		Female	Male	Unknown	Female	Male
12/13	None	N/A	N/A	N/A	N/A	N/A

13/14	None	N/A	N/A	N/A	N/A	N/A
14/15	Senior Lecturer to Professor	0	2	0	0	2
	Lecturer to Senior lecturer	0	1	0	0	1

Table 7: Applications for permanency within the DMS

	Applications			Awarded	
	Female	Male	Unknown	Female	Male
12/13	0	0	0	0	0
13/14	0	0	0	0	0
14/15	0	1	0	0	1

Since 2012, 2 male members of staff have applied for promotion from Senior Lecturer to Professor and both were successful. No other applications have been made. Being in their probation period, no female staff have been in the position to apply for promotion or permanency during this time. However, one female staff member successfully applied for permanency in November 2016 and the other can do so in July 2017. This will then open up opportunities for promotion in the future.

Q4 - I understand the promotion/probation process and criteria.

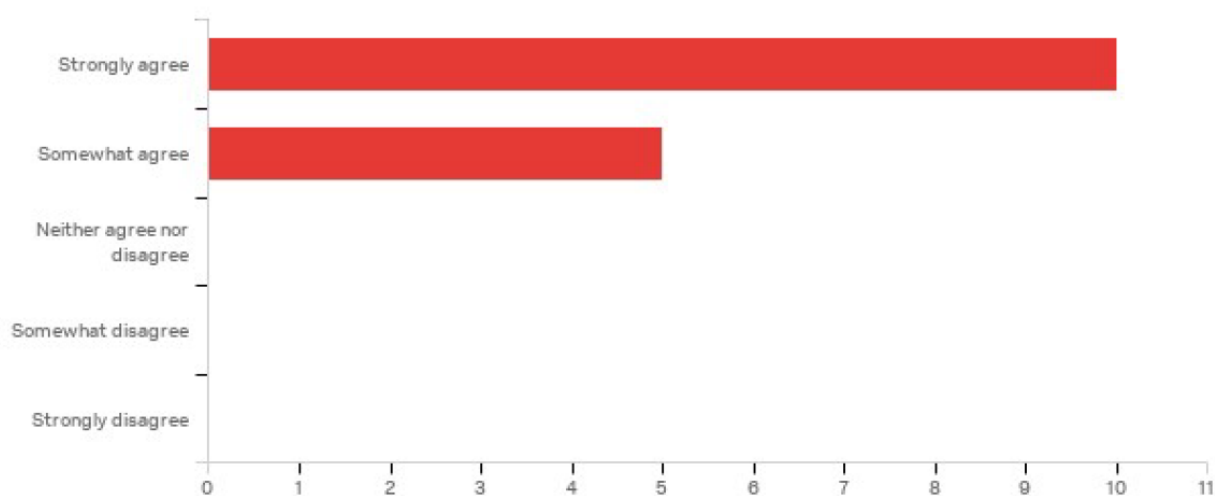


Figure 18: Staff survey result on question: "I understand the promotion process and criteria"

The Department's Senior Staff meet annually to discuss applications for promotion, making a recommendation to the University's Academic Staffing Committee. Currently, all the senior staff in the Department are male and this imbalance needs addressing. Staff are made aware of the Annual Review process by communications from the HoD. In the past staff have put themselves forward as applicants for promotion but more could be done to proactively encourage staff to apply when they are ready. We know from the University's work on the bronze institutional award that women are less likely to put themselves forward than men. The Staff Survey (Figure 18) indicated that the promotion procedure was generally well understood.

Actions:

★ **Action 3.6 and 3.7:** Proactively encourage staff to apply for promotion through the appraisal scheme. Ensure all new appraisers attend the University's Appraiser training and encourage appraisees to attend training so they know what to expect.

√ **Action 3.8:** Increase awareness of promotion criteria, career development opportunities, training and events within the Department to support women on WIMS to raise awareness to females.

Words: 286

- b) For each of the areas below, explain what the key issues are in the Department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.
- (i) **Recruitment of staff** – comment on how the Department's recruitment processes ensure that female candidates are attracted to apply, and how the Department ensures its short listing, selection processes and criteria comply with the university's equal opportunities policies

The data shows we have not been gender biased in our selection process as only 15% of applicants were female whereas 33.33% of our appointments were made to females. Compulsory training is provided to all interview panel members on Equality.

Nevertheless, women are under-represented in the Department so we intend to take positive actions for all future recruitment campaigns. Further particulars of DMS job adverts will include details of the childcare provision and voucher scheme. The Department has launched a "Women in Maths" webpage, highlighting female role models and this will be referred to in the advertising of roles, which we expect will make the Department more attractive to women. In the future we hope to be able to place the Departmental AS Bronze Award badge on our website and job adverts. The Department also intends to sign up as a supporter of the London Mathematical Society's (LMS) Good Practice Scheme, and this will also be highlighted on the Department's website. Positive action statements have been used sporadically but we will aim to do this consistently to try and increase the number of female applicants.

Actions:

√ **Action 3.2 and 3.4:** Showcase the role that women play in Mathematics on WIMS to attract more female applicants. Promote childcare provision on Further Particulars for job adverts.

★ **Action 3.4 and 3.5:** Gain Athena SWAN Bronze award and apply for the London Mathematical Society (LMS) Good Practice Scheme. Make these prominent on the Department webpage and job adverts.

Words: 246

- (ii) **Support for staff at key career transition points** – having identified key areas of attrition of female staff in the Department, comment on any interventions, programmes and activities that support women at the crucial stages, such as personal development training, opportunities for networking, mentoring programmes and leadership training. Identify which have been found to work best at the different career stages.

All probationary staff are assigned a mentor who guides them through the probationary process and makes sure that they are on track to meet the requirements of their probationary agreements. One requirement of

the probationary agreement is that probationary staff should attain Fellowship of the Higher Education Academy (HEA) and training is provided by the Learning and Development department to support staff in their applications.

The standard probation period is 3 years, though this can be extended for 1 further year if necessary. There are currently 5 probationary staff within the Department, 1 female and 4 males. One (female) probationary staff member has had her probationary period extended to reflect her period of maternity leave and it is standard practice to automatically extend under these circumstances.

The DMS has only recently appointed its first female staff members for many years and it hopes to be able to increase the number further. The Department will explore the effectiveness of setting up a focus group with new staff to discuss promotion and career development procedures, which was recommended in general as a good practice.

Actions:

★ **Action 3.8:** Publish promotion criteria, Career development, training and events to support women on WIMS to raise awareness to females.

★ **Action 3.10 and 3.11:** Improve access to induction information and training information via Moodle.

★ **Action 3.14:** Set up a focus group with new staff to discuss promotion and career development procedures.

Words: 237

Total words for Key Career Transition Points: 999

Career development

- a) For each of the areas below, explain what the key issues are in the Department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.
- (i) **Promotion and career development** – comment on the appraisal and career development process, and promotion criteria and whether these take into consideration responsibilities for teaching, research, administration, pastoral work and outreach work; is quality of work emphasised over quantity of work?

DMS has annual appraisal process, which is carried out by the HoD. During the appraisal, the achievements and objectives of the past year are discussed and a review of training and development activities since the last appraisal meeting is carried out. Training and development activities include: conferences, workshops, courses, visits, structured reading, distance learning, e-learning and other type of activities. The areas of education, research and leadership/citizenship, are covered during the appraisal.

Q2 - When carrying out performance appraisals, the Department of Mathematical Sciences values the full range of an individual's skills and experience (e.g. research, pastoral work, outreach work, clinical practice, teaching and administration):

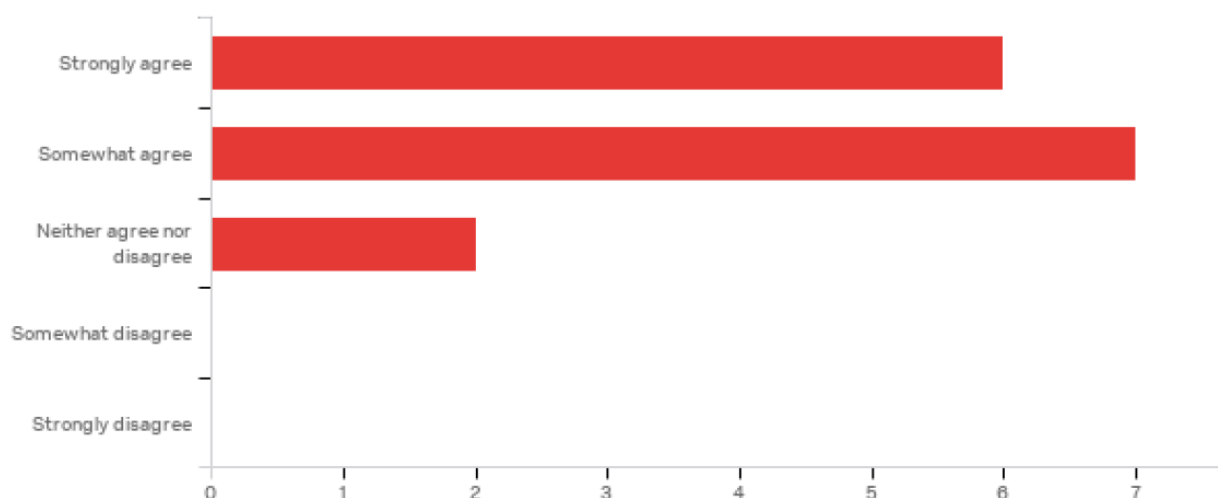


Figure 19: Staff survey result on question: “When carrying out performance appraisals, the DMS values the full range of an individual’s skills and experience”

Q3 - When considering promotions, the Department of Mathematical Sciences values the full range of an individual's skills and experience (e.g. research, pastoral work, outreach work, clinical practice, teaching and administration):

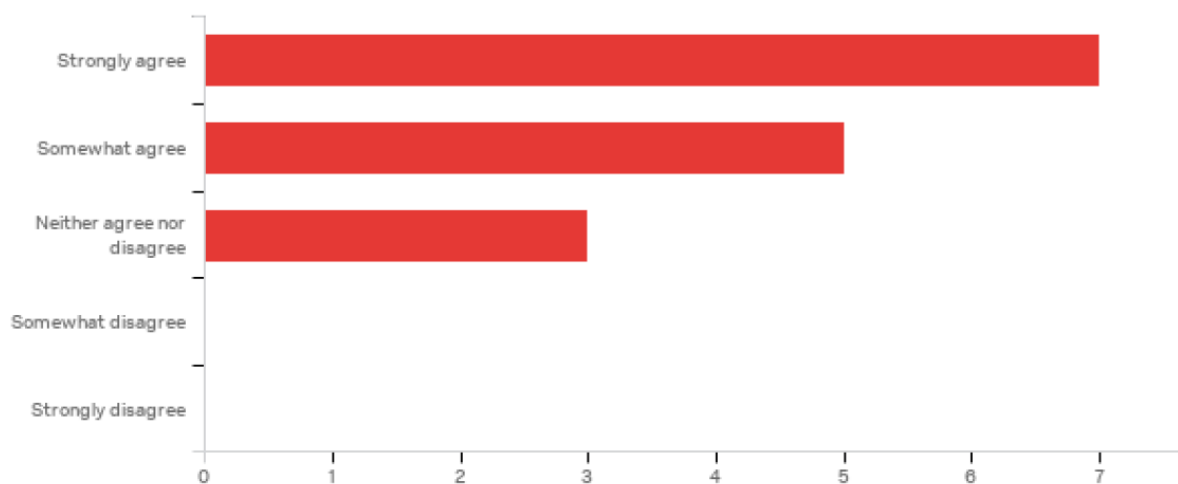


Figure 20: Staff survey result on question: “When considering promotions, the Department of Mathematical Sciences values the full range of an individual’s skills and experience”

The Staff Survey indicated that when carrying out appraisals, most respondents felt that the DMS values the full range of an individual’s skills and experience (Figure 19) but less so when considering promotion applications (Figure 20).

The annual appraisal is only one opportunity for discussion about career progression. Staff also regularly meet with the Director of Research and their mentor or probationary supervisor. Mentoring provides the mentee with opportunities to discuss and reflect on research and education done but also to think about future career options and progress.

The criteria for promotion and probation are explicitly stated in the university's annual review procedures, which are available online to all staff. Promotion requires members of staff to demonstrate excellence in education, research and leadership/citizenship to the required standard at each level. Survey results (Figure 21) show that most staff (11/15) agree that they are encouraged to take up career development opportunities.

Q5 - I am actively encouraged to take up career development opportunities.

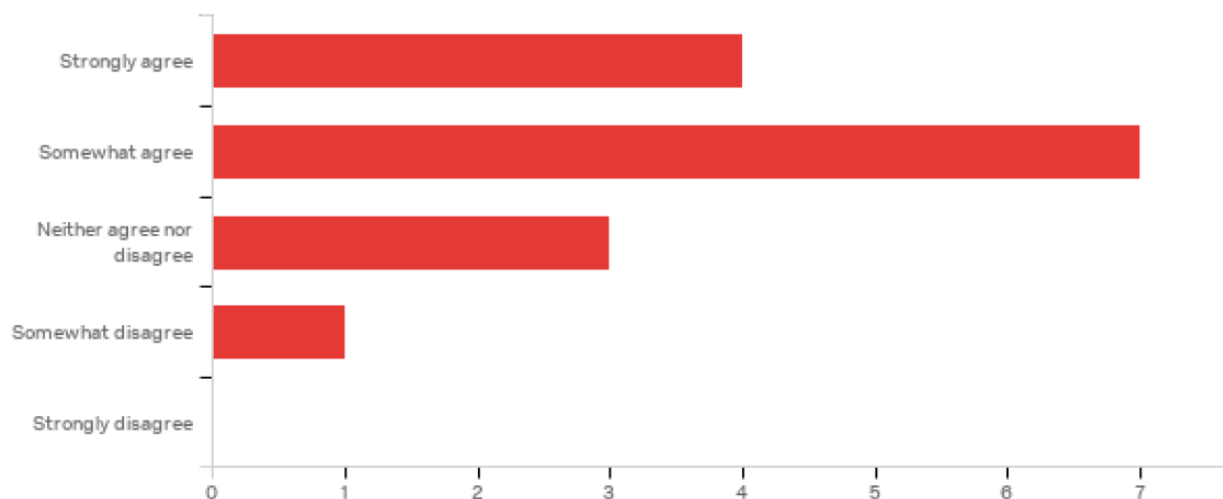


Figure 21: Staff survey result on question: "I am actively encouraged to take up career development opportunities"

Actions:

✓ **Action 3.13:** New staff meet with the HoD as part of induction to discuss the Appraisal process and the PDRs.

★ **Action 3.15:** The PDR includes discussion around identifying career development needs and promotion. Monitor the impact of PDR procedures on female applications for promotion and success rates.

★ **Action 3.9:** Carry out a further DMS staff survey to understand opinion on whether any further support can be provided to help with applications for promotion or identify any gaps in awareness.

Words: 305

- (ii) **Induction and training** – describe the support provided to new staff at all levels, as well as details of any gender equality training. To what extent are good employment practices in the institution, such as opportunities for networking, the flexible working policy, and professional and personal development opportunities promoted to staff from the outset?

The University induction cover specific areas such as Introduction to the university, Equality and Diversity, Health and Safety, facilities, IT, grants, funding and HR issues such as maternity, paternity and parental leave. New members of staff are required to attend an induction event (a series of events is running across the year).

Furthermore, as part of their probationary agreements, new staff are required to apply for HEA fellowship via CADENZA, which is the University's professional development framework for those teaching and supporting learning in higher education. It has been designed to encourage staff to recognize and record their talents, strengths and achievements and to apply for professional recognition at the level of Fellow,

Senior Fellow and Principal Fellow. Of the Department's 11 full time, permanent staff there is one Principal Fellow, two Senior Fellows, two Fellows, and one Associate of the HEA. Of the Department's six probationary staff there are 2 Fellows (all female) and the remaining 4 are working on applications for Fellowship as part of their probationary agreements.

Q6 - The Department of Mathematical Sciences provides me with a useful PDR process.

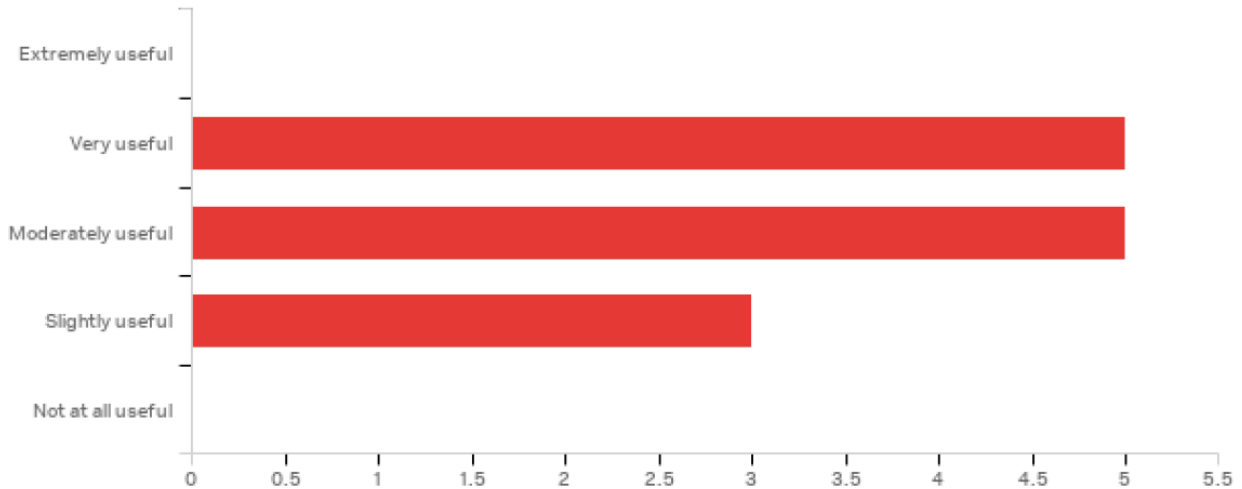


Figure 22: Staff survey result on question: "The Department of Mathematical Sciences provides me with a useful PDR process"

Q7 - The Department of Mathematical Sciences provides me with:

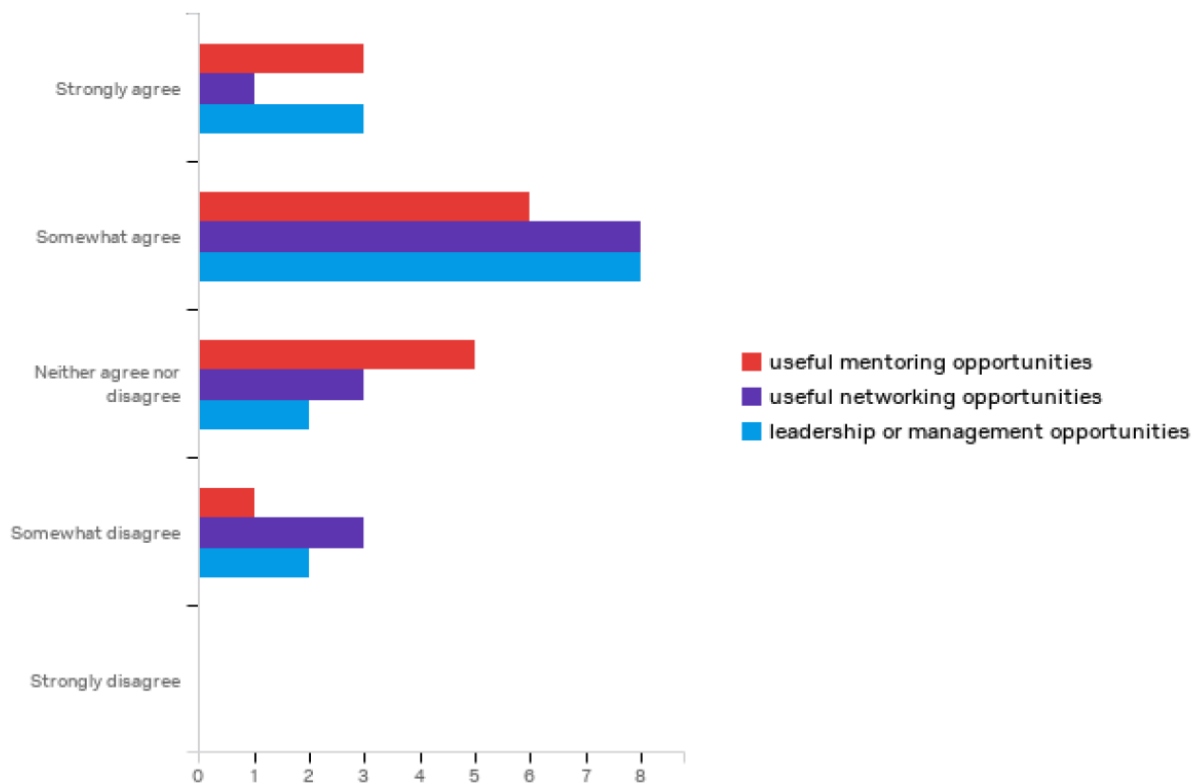


Figure 23: Staff survey result on question: "The Department of Mathematical Sciences provides me with useful mentoring, networking and leadership opportunities"

The Department's PDR process has been commented as "Very useful" and "Moderately useful" by most staff, but it is also remarkable that 0/13 find the PDR process "Extremely useful" (Figure 22). Regarding the usefulness of mentoring, networking and leadership opportunities, 1/15, 3/15, 2/15 answered "Somewhat disagree" respectively (Figure 23).

Actions:

★ **Action 3.9:** Survey into staff to understand individual's expectation on mentoring, networking and leadership development needs.

★ **Action 3.10:** Revise handbook for new staff to include information training courses. Promote the 'Welcome to Essex' induction resource on Moodle that includes a range of information related to induction for all employees.

★ **Action 3.13:** Set up 'Mentoring Circles' of mixed gender and experience to discuss career development opportunities and needs.

Words: 290

- (iii) **Support for female students** – describe the support (formal and informal) provided for female students to enable them to make the transition to a sustainable academic career, particularly from postgraduate to researcher, such as mentoring, seminars and pastoral support and the right to request a female personal tutor. Comment on whether these activities are run by female staff and how this work is formally recognised by the Department.

The DMS, and UoE in general, have established gender-blind student support mechanisms. Advice and support are offered to students in UoE in many ways. Each undergraduate student has a personal tutor who they have to meet with for at least twice per academic term (one at the beginning and one in the end). Tutors have access to data regarding their performance and absences, in order to have an integrated picture and discuss any arising issues. To better communicate with students, we run termly Student Staff Liaison meetings for students to give feedback on our general practice. In 2015/16, 67% of representatives were female (Years 1 & 2), and 100% (Year 3). Each undergraduate student has also a student 'peer'. Females can request a female tutor or 'peer'. Currently 90% of student peers are females (Figure 24).



Figure 24: Picture of all DMS peer mentors for undergraduate students


Furthermore, the DMS has been one of the pioneers in Maths Support not only for DMS students but also for students of other departments. Maths Support is now offered from the Talent Development Centre, located in the Silberrad Student Centre.

The DMS has both an Employability Development Director (EDD) and a Placement Officer working directly with our students. The students benefit from our Employability module (MA199) seminars, one-day workshop and career events. Furthermore, they receive guidance on job applications and preparation for interviews, which put them in a position to better understand their career prospects. This effort has resulted in very high (greater than 90%) employability figures for our students. The Department also offer Study Abroad and Industrial Placement degrees which are supported by both Departmental Officers and Career Centre. 56% of Study Abroad participants in 2015/16 were female. Placement years are new to the Department, with only one student (male) so far have completed a placement (in 2014/15). One female student will be on placement in 2016/17 and nine female students (out of 13) registered on courses with placement years in future years.

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MA199: Mathematics Careers and Employability

Home > Faculty of Science and Health > Department of Mathematical Sciences > Undergraduate > MA199



So what is MA199 all about?

MA199 is different from all the other courses you will take during your time as a student in the Department of Mathematical Sciences at the University of Essex. It has no examinations and runs over the whole of your three undergraduate years. Upon completion of the module you will have created a portfolio demonstrating the skills and experiences you have developed during your time at Essex that will ensure success once you finish your degree. In the first year, you will spend time thinking about your background, what you want to get out of your time at University, and how to plan for success and achieve the goals that you might set for yourself. In the second year, you will explore ways of getting more relevant experience and developing your skills through a range of activities. In your final year, you will start to think about and prepare for life after you finish your degree, whether this is finding a job, further study, or even setting up your own business!

Although the title is 'Employability' the module is NOT just about getting a job or deciding on a career, although it will hopefully help those people who are thinking about these outcomes. The module will encourage you to think and reflect more about the wide range of activities, options, and possibilities that you have available to you while at University and make sure you are in a position to make the most of them during your time as a student.

If you have any questions about MA199 please contact the Maths Employability Development Director (Prof. Edd Codling): ecodling@essex.ac.uk

Figure 25: Moodle page of the Mathematics Careers and Employability (MA199) module



Figure 26: PG Networking Event on Friday 28 October 2016

For postgraduate students, a two-hour induction meeting takes place at the beginning of every academic year, together with termly PG open evenings and networking events (Figure 26). The Department offers a Research methods module that provides an introduction to the principal research tools for students on postgraduate courses in Mathematical Sciences, including practice in the mathematical word-processing language LaTeX. Additional training for PhD students is provided through various modules of the Proficio doctoral training system.

Actions:

★ **Action 1.5:** Revise students’ handbook to make sure it contains all essential information including the WIMS.

★ **Action 3.20 and 3.21:** Promote the Study Abroad and Industrial Placement schemes on WIMS and monitor the percentage of female participants in both schemes.

Words: 438

Total words for Career Development: 1033

Organisation and culture

- a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.
 - (i) **Male and female representation on committees** – provide a breakdown by committee and explain any differences between male and female representation. Explain how potential members are identified.

The main committees in the Department influencing our teaching and assessment are the Department Education Committee and the Exams Board. Of our two female academics, one (who is currently on sabbatical) has been a member of the Exams Board in 2014-2016 and another is currently a member of the Education Committee. The newly formed Department Steering Group and the Research Students Progress Committee also each include a female (see Table 8).

Table 8: Core Committee members in the DMS in 2015/16 by genders

	Female	Male
Department Steering Group	1	4
Department Education Committee	1	5
Department Research Committee	0	6
Department Scholarships Committee	0	6
Department Exam Board	1	4
Research Students Progress Committee	1	5
Staff/Student Liaison Committees	1	7

The principal roles that have been occupied in the Department by a woman in the last three years are that of the UG Project Coordinator, the Deputy PG Director, the Placement and Study abroad officers. The computing support officer is female. Some roles such as PG Study Skills Officer have been assigned to women, to act as a departmental representative on University committees from 2013 to current. Other roles given to women at different times are the Deputy Employability Development Director and UG Study Skills Officer (See Table 9).

Table 9: Other positions taken by female members in the DMS in 2013/16

	years
PG Study Skills Officers	2013-2016
UG Study Skills Officers	2013-2015
Deputy PG Director	2013-2016
Study Abroad Officer	2015-2016
Deputy Employability Development Director	2013-2016
Placement Year Officer	2015-2016
Computing Support in SSLCs	2013-2016

We see that, although a small department with a small number of women, some key roles are given to women at both departmental and university level during the last three years. Most committees have at least one woman in some roles.



Figure 27: First Essex Department of Mathematical Science (DMS) Advisory Board meeting on 30 September 2016

Words: 201

- (ii) **Female:male ratio of academic and research staff on fixed-term contracts and open-ended (permanent) contracts** – comment on any differences between male and female staff representation on fixed-term contracts and say what is being done to address them.

The majority of academic and administrative staff are on permanent contracts, except one maternity cover female administrator.

During 2013-16, we had four research officers in the Department; they all were male.

Every year the Department hires a number of Graduate Teaching Assistants, who are selected from the Department's and, more widely, the University's PhD students. Both male and female PhD students are widely represented among the Department's GTAs. For example, in the academic year 2015/16 there were 9 female and 7 male GTAs and in 2016/17 there are 5 female and 6 male GTAs.

Words: 94

- b) For each of the areas below, explain what the key issues are in the Department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.

- (i) **Representation on decision-making committees** – comment on evidence of gender equality in the mechanism for selecting representatives. What evidence is there that women are encouraged to sit on a range of influential committees inside and outside the Department? How is the issue of 'committee overload' addressed where there are small numbers of female staff?

All members of the Department are encouraged to serve on Department committees. Since the Department is relatively small, administrative duties are allocated directly by the HoD after consulting each academic about their preferences.

Table 8 and 9 show that female staff takes part in Departmental Committees, Staff/Student Liaison Committees (SSLCs) and many important roles in the Department in past three years (from 2013/14 to 2015/16). They also act as Departmental Representatives on University Committees.

Female academics were not members of the Department Education Committee because of their lack of experience in HE, but in recent year one female has already been involved. The fact that they were not on this particular committee does not affect their ability to apply for promotion; indeed, in our relatively small department every academic is involved in performing some administrative roles.

Note that the total number of duties given for female staff is affected by special circumstances, i.e. one of the members of female staff had a baby, and one of the members of female staff is developing a new degree course in Actuarial Sciences.

Actions:

★ **Action 3.22:** Encourage female academics to participate in committees as a part of yearly appraisal, providing that this does not impact negatively on their more important duties which may lead to permanency or promotion.

Words: 216

- (ii) **Workload model** – describe the systems in place to ensure that workload allocations, including pastoral and administrative responsibilities (including the responsibility for work on women and science) are taken into account at appraisal and in promotion criteria. Comment on the rotation of responsibilities e.g. responsibilities with a heavy workload and those that are seen as good for an individual’s career.

The female academics in the Department are closer to the beginning of their career, and as with all recently appointed staff, the Department tries not to overload them with heavier responsibilities. Having said this, one female academic was hired to an appointment where duties included making a major contribution to developing a new degree. Both the Department and the university are looking for ways to help her to succeed in other areas of her work, most importantly research. The Department (like other departments at the University of Essex) has a transparent workload model, which is reviewed yearly and aims to show how many hours each academic spends on work allocated to them. The workload is discussed during the annual appraisal. Heavier administrative duties in the Department are not rotated regularly, but usually are allocated to more experienced members of staff, while less experienced members of staff are exposed to various aspects of administration in the Department by participating in relevant meetings. Figure 28 shows what the members of the Department say in the staff survey about the transparency of how duties are allocated, and whether there is a gender bias.

Q12 - This question concerns workload allocation in the School:

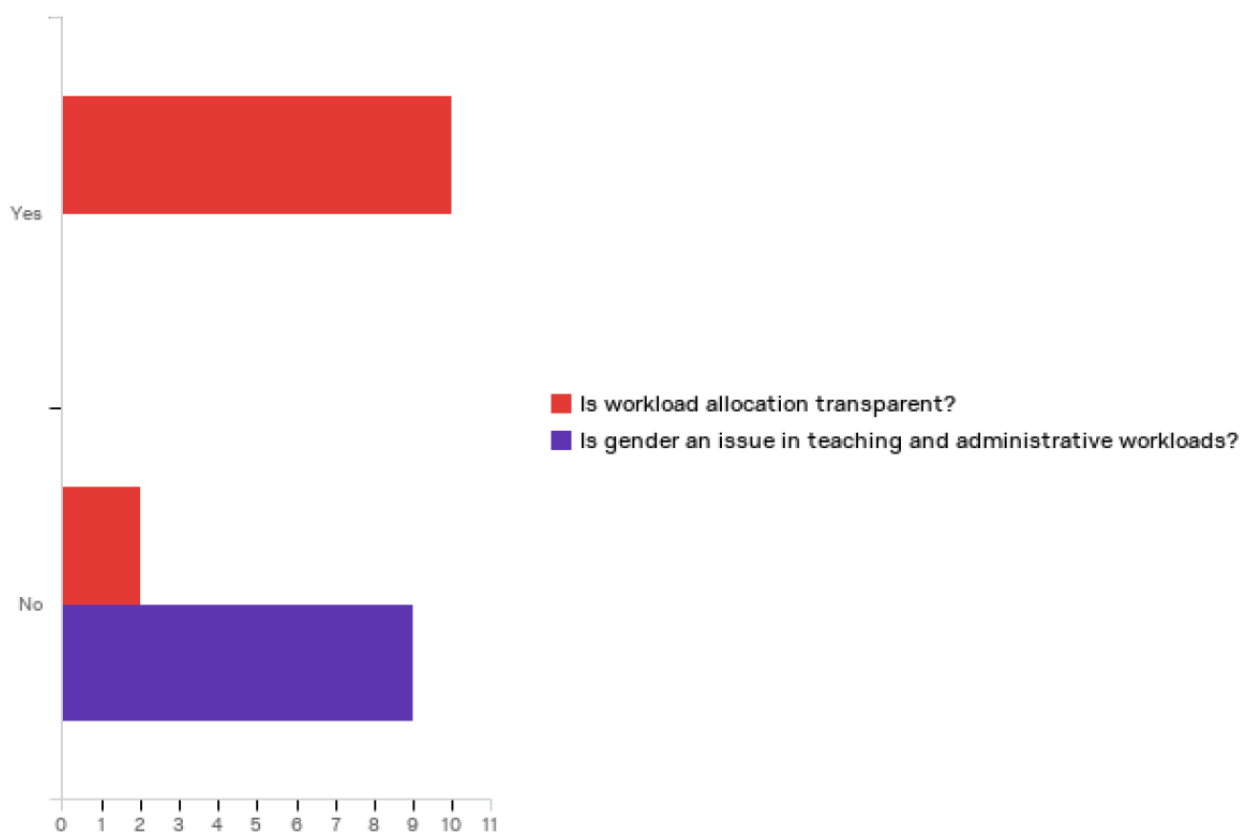


Figure 28: Staff survey result on question: “Is workload allocation transparent and is there a gender bias”

Actions:

★ **Action 3.23:** Continue monitoring staff satisfaction with allocation of duties, especially across the split into male/female members of staff.

✓ **Action 3.24:** Continue revising the workload model as needed.

Words: 221

- (iii) **Timing of departmental meetings and social gatherings** – provide evidence of consideration for those with family responsibilities, for example what the Department considers to be core hours and whether there is a more flexible system in place.

Core hours are 10am to 5pm, Monday to Friday and departmental meetings, seminars, and away days are scheduled during core hours to minimise disruption to the many people who have caring responsibilities. The Departmental meetings take place every term with three meetings in an academic year. The meetings are generally scheduled for 2 to 5pm. Dates and times of meetings are published well in advance to maximise attendance and to allow those with family commitments to make alternative arrangements. Mathematical sciences seminar series are held on Thursday afternoons, almost every week during term time; from 2pm to 3pm followed by refreshments and socialising for those interested to facilitate interactions among staff. Staff Student Liaison Committee (SSLC) meetings, teaching committee meetings, meetings at group and sectional level are scheduled around the needs of the people involved. These meetings are generally scheduled during core hours. There is an annual University picnic and the Department hosts a Christmas lunch. These social gatherings are generally well regarded and supported.

The staff seem reasonably happy (but not totally happy) with the timing of meetings (Figure 29). Figure 30 shows that most staff (11/14) think the events are welcoming to both genders. The Department has introduced an arrangement which specifies which periods of the year will be largely free of meetings and, therefore, most suitable for being away from the Department.

Q14 - Meetings in the Department of Mathematical Sciences are held at times that are suitable for those who work flexibly (i.e to meet caring responsibilities).

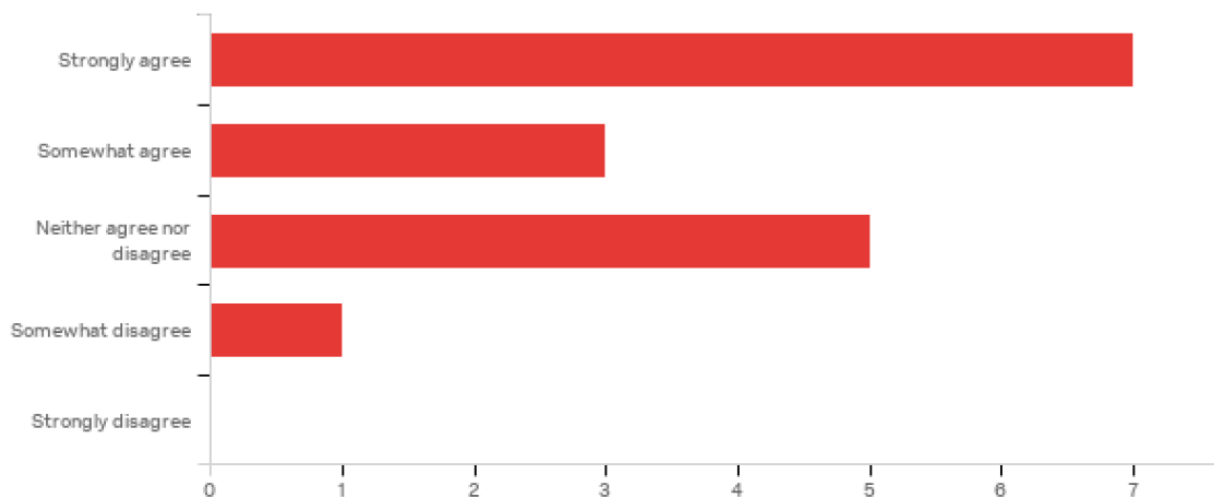


Figure 29: Staff survey result on question: “Meetings in the Department of Mathematical Sciences are held at times that are suitable for those who work flexibly”

Q15 - Work related social activities in the Department of Mathematical Sciences, such as staff parties, team building or networking events, are welcoming to both women and men (e.g. consider whether venues, activities and times are appropriate to both women and men).

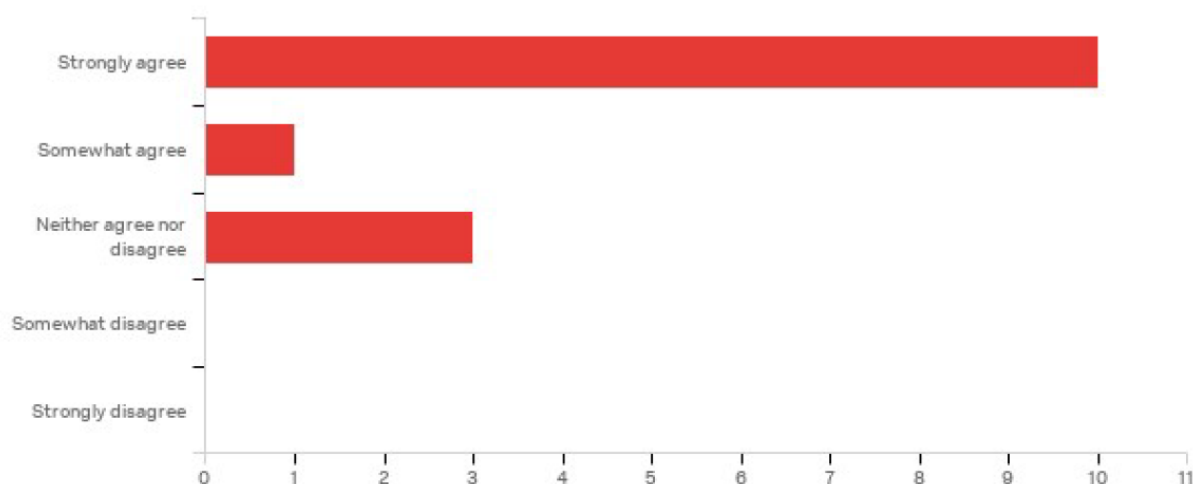


Figure 30: Staff survey result on question: “Work related social activities in the Department of Mathematical Sciences, such as staff parties, team building or networking events, are welcoming to both women and men”

Actions:

★ **Action 3.25:** Monitor social gatherings and meeting times (such as morning coffee sessions, departmental meetings, research seminars) and revise, if needed, to make the times convenient for staff with care duties. Consider changing core hours to 10am-2pm in general.

Words: 266

- (iv) **Culture** –demonstrate how the Department is female-friendly and inclusive. ‘Culture’ refers to the language, behaviours and other informal interactions that characterise the atmosphere of the Department, and includes all staff and students.

Staff

We have made an effort to gauge perceptions among staff by conducting a survey including questions about equality and diversity within the Department in 2016. The majority of responses came from men with 26% of answers coming from women. Half of those who responded to the survey are in their mid-career, far fewer responses belong to late-career members of the Department and many respondents work full-time in the Department. Almost 80% have permanent positions and 40% of our total staff have children aged under 18.

Figure 28 shows that 100% of staff believe that gender is not an issue in teaching an administrative workloads and most staff feel that social activities have been planned considering attendance of participants of either gender (Figure 30). As shown in Figure 33, almost every member of department agrees that the HoD is supportive and deals effectively with complaints and offensive behaviours.

However, only 85% of respondents agree that workload is transparent (Figure 28), and only 75% agree that equal income results from doing the same work (Figure 31). Furthermore, only (87.5%) respondents agree that the Department makes it clear that unsupportive language and behaviour are not acceptable (Figure

32). Since the survey was anonymous, it is not possible to ascertain if there is a gender bias in this data. It is important to properly understand if there is such a bias, but in a small department with a small number of female staff this can be a sensitive and personal issue to investigate. For this reason the University's HR department will look to offer Faculty focus groups to study such issues.

Q11 - I believe that in the Department of Mathematical Sciences, men and women are paid an equal amount for doing the same work or work of equal value.

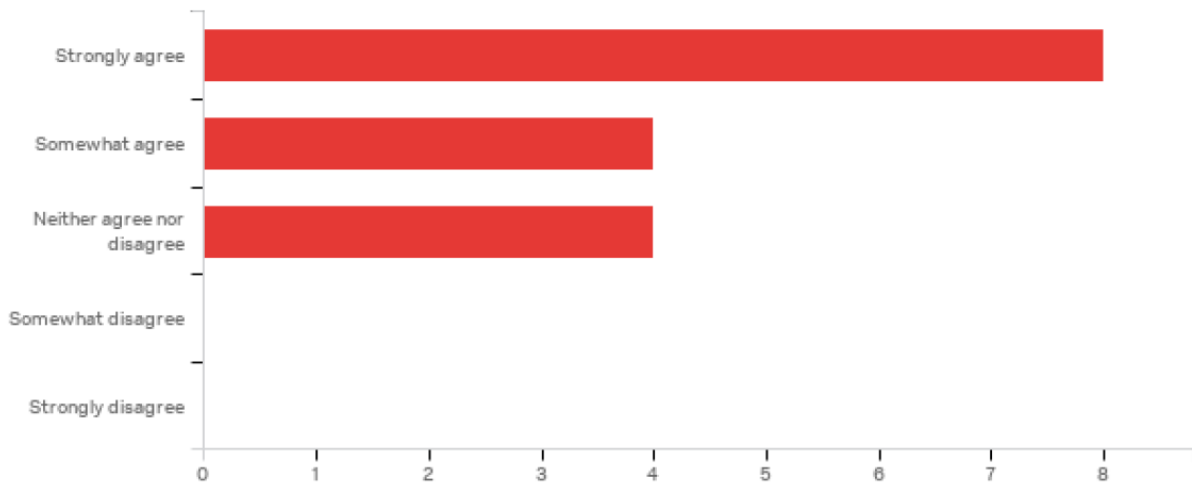


Figure 31: Staff survey result on question: "I believe that in the Department of Mathematical Sciences, men and women are paid an equal amount for doing the same work or work of equal value"

Q13 - The Department of Mathematical Sciences makes it clear that unsupportive language and behaviour are not acceptable (e.g. condescending or intimidating language, ridicule, overly familiar behaviour, jokes/banter that stereotype women or men or focus on their appearance).

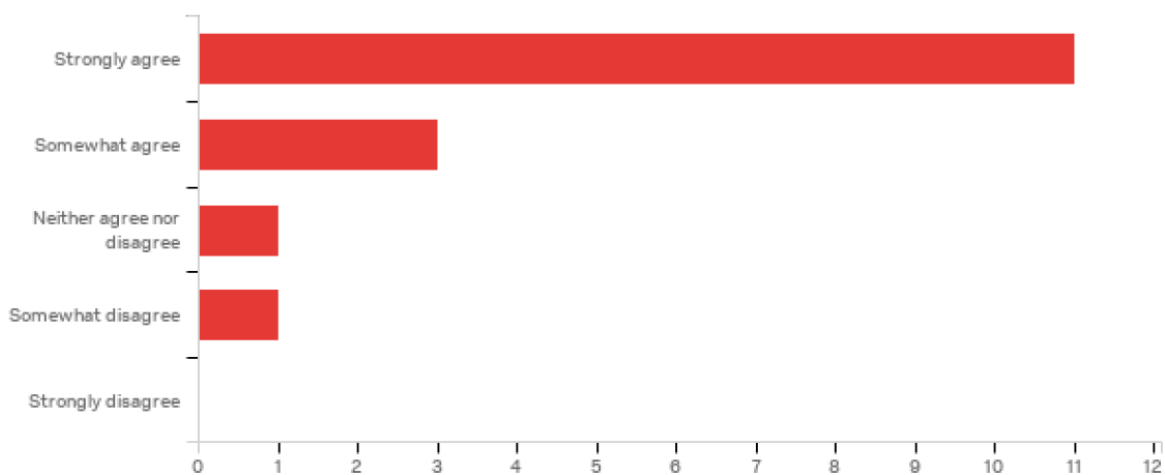


Figure 32: Staff survey result on question: "The Department of Mathematical Sciences makes it clear that unsupportive language and behaviour are not acceptable"

Q18 - My Head of department is supportive of requests for flexible working (e.g. requests for part-time working, job share, compressed hours).

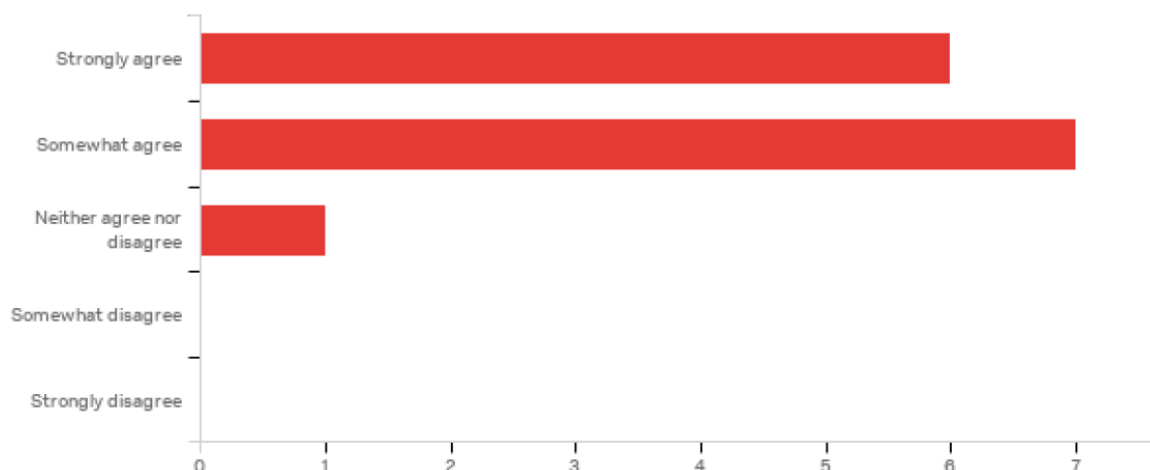


Figure 33: Staff survey result on question: “My Head of department is supportive of requests for flexible working”

Whilst we had a small number of responses expressing a lack of satisfaction, we mostly get positive results overall. The results described above show that the Department continuously provides a satisfactory environment for all staff.

The new Head of the Department plans to introduce morning coffee and afternoon tea sessions. We shall monitor this initiative and review it if we find that some staff (for example, those with children) cannot benefit from it.

The Department recognises the importance of female role models. For instance, among our External Examiners there are always males and females. Among our recent research visitors and undergraduate interns there are males and females. We are aware that not many female research seminar speakers come to us to give talks: only approximately one per year.

Students

Results of the gender equality survey for students show that the Department is female-friendly and inclusive. Figure 34 shows that 100% of students agree that they are given equal opportunities to represent the Department externally and/or internally irrespective of gender (e.g. as a student representative on School Committees, open days).

As shown in Figure 35, 83% of male and female students have not experienced a situation where they felt uncomfortable because of their gender. However, 11% of them claim that they face this problem occasionally. 78% of students are strongly and/or somewhat confident that their tutor/supervisor would deal effectively with any complaints about harassment, bullying or offensive behaviour.

Most of the student participants of the survey are not aware of “the Athena Swan Charter and Principles and the Department’s commitment to this” and “The Women’s Network and how to get involved”. 26% of them would like to learn more about the Women’s Network and how to get involved. Only 6% of participants are aware that the Department has a “Women in Mathematics” webpage.

Q6 - Students are given equal opportunities to represent the department externally and/or internally irrespective of gender (e.g. as a student representative on School Committees, open days).

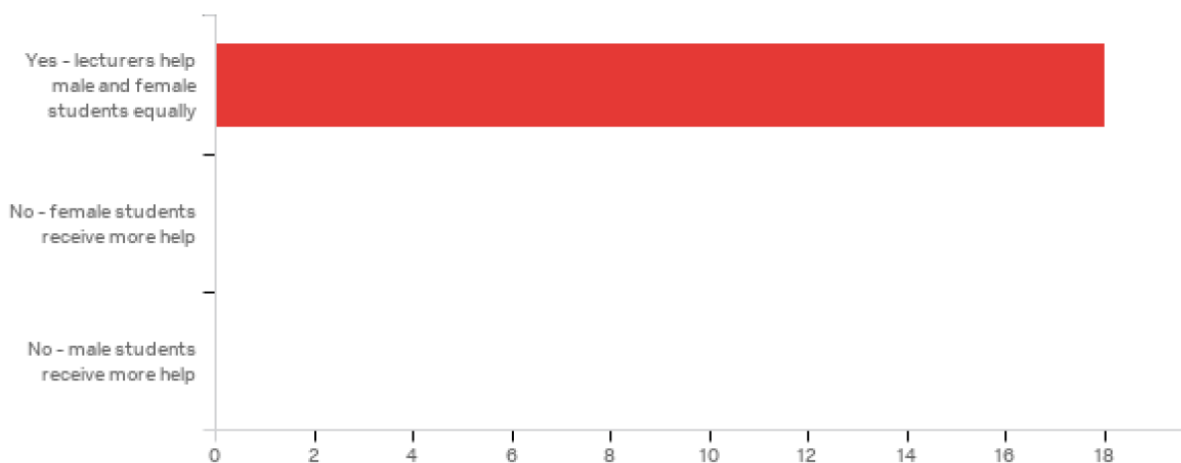


Figure 34: Student survey result on question: “Students are given equal opportunities to represent the Department externally and/or internally irrespective of gender”

Q18 - During my time in this department, I have experienced a situation where I have felt uncomfortable because of my gender.

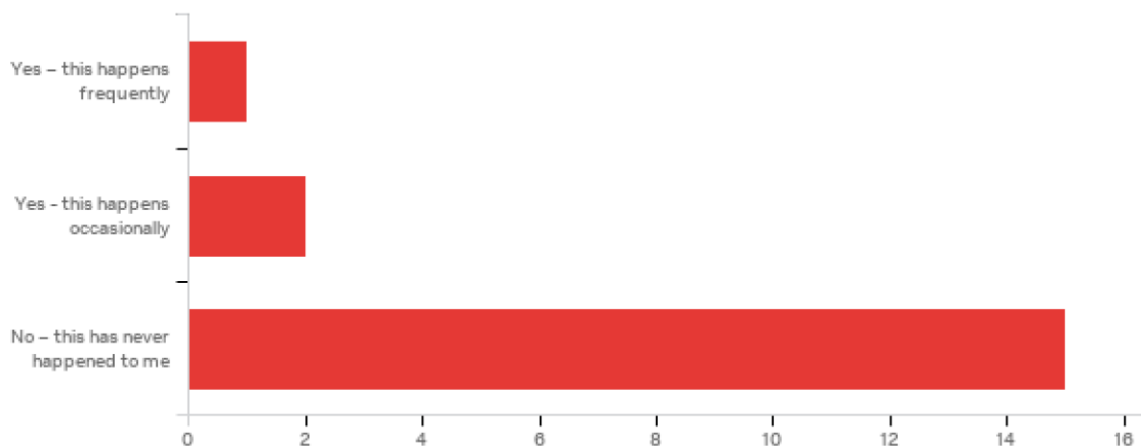


Figure 35: Student survey result on question: “During my time in this department, I have experienced a situation where I have felt uncomfortable because of my gender”

Approximately 72% of respondents agree that they have access to role models they can identify within the Department/University (e.g. both women and men are used as visible role models in Open Days, student inductions and networking events; visiting speakers and lecturers include both genders; both male and female staff act as mentors).

Actions:

- ★ **Action 1.5, 3.2 and 3.8:** Promote WIMS webpage to both student and staff.
- ★ **Action 3.27:** Invite more female researchers to give seminar talks.
- ✓ **Action 1.5 and 3.17:** Promote female role models to ensure they are more prominent.

★ **Action 3.28:** Support the University's Faculty Focus Group to study on the concerns on pay and unacceptable behaviour.

Words: 682

- (v) Outreach activities – comment on the level of participation by female and male staff in outreach activities with schools and colleges and other centres. Describe who the programmes are aimed at, and how this activity is formally recognised as part of the workload model and in appraisal and promotion processes.

The Department engages in a number of Outreach Activities locally, regionally and nationally. Activities include open days, visits to schools, attending a wide variety of student recruitment events and speaking at public events promoting mathematics.

One of the regular events that the Department hosts is a Sunday Maths Class. The class is aimed at GCSE and Sixth Form students and is run by Professor Abdel Salhi and other members of staff and students from the Department. The Department also hosts an annual Winsten Day to Year 12 pupils. It includes mathematical problem solving sessions, advice on applying to university and lectures from our academics. The day ends with the keynote Winsten lecture, delivered by a notable speaker from the world of mathematics and statistics.



Figure 36: Lecture given by Kristin Coldwell on Winsten Day Tuesday 5th July 2016

These outreach activities generally attract a high number of female participants. Many of the staff involved in both organising and delivering them are also female, thus providing positive role models and encouraging more female students.

Actions:

★ **Action 3.26:** Keep data from outreach activities and check it regularly to ensure that they continue being female-friendly and inclusive.

Words: 181 Total words for Organisation and Culture: 1861

Flexibility and managing career breaks

- a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.

The University has a comprehensive Family Leave Policy which covers maternity, adoption, shared parental, paternity and parental leave. In many cases, these not only comply with current legislation but go above and beyond the minimum requirement e.g. Statutory Paternity pay is £139.58 a week or 90% of their average weekly earnings (whichever is lower), whereas Occupational Paternity pay is 2 weeks of full pay.

Words: 64

- (i) **Maternity return rate** – comment on whether maternity return rate in the Department has improved or deteriorated and any plans for further improvement. If the Department is unable to provide a maternity return rate, please explain why.

Within the Department, there has been a 100% maternity return rate over the reporting period as of the 2 female academic staff, only 1 individual has taken maternity leave between 2012 - 2015 (Table 10) and returned afterward. Feedback from the member of staff stated that improved understanding of the family leave policy by senior member of staff would have been beneficial to ensure she was aware of all her entitlements and could make more informed choices. An action is to increase awareness to all staff. HR meet with every person going on maternity leave to discuss entitlements, benefits and the family leave policy. The HoD receives a summary of what was discussed.

Table 10: Maternity & paternity leave taken by gender and grade

	Lecturer	Senior Lecturer	Professor
Male	0	4	1
Female	1	0	0

Actions:

★ **Action 3.30:** Ensure better departmental communication of information regarding leave allowances and management, as well as liaison between the member of staff, the Department, and HR.

Words: 141

- (ii) **Paternity, adoption and parental leave uptake** – comment on the uptake of paternity leave by grade and parental and adoption leave by gender and grade. Has this improved or deteriorated and what plans are there to improve further.

There were no formal requests for paternity leave during this period as recorded in the University Family leave data. However, we conducted our own research to all academic members of staff and found out that 5 male academics had taken paternity leave over the reporting period, on an informal basis.

Of the five male academics who took paternity leave, four are currently senior lecturer (SL) and one a professor (Table 10). Two of the SLs applied for and were granted two weeks of formal paternity leave during term time. The male professorial staff member took both informal and formal paternity leave on two separate occasions over the reporting period. The other two SLs took informal paternity leave. In both cases, the reason for the leave being informal was that their children were born during a period when they had already booked or taken annual leave. The HoD was described as “very supportive” in both cases although some leave days had to be spread throughout the term due to teaching duties.

A general point raised by several male staff was that the practicalities of taking formal paternity leave during term time in a two week block was deemed to be difficult since there was a perception that staff were expected to organise some of the teaching cover themselves, or make sure that replacement lectures were organised for students after the leave period. In addition, it was felt that taking such leave in term time was difficult because this would increase the pressure and workload on other colleagues.

No staff reported taking parental leave for adoption during the reporting period.

Actions:

★ **Action 3.32:** All paternity leave applications are formalised through the Family Leave policy so to ensure this is recorded and monitored.

★ **Action 3.29:** HoD to explore how to overcome potential difficulties with staff taking paternity leave and make provision through the workload model.

Words: 314

- (iii) **Numbers of applications and success rates for flexible working by gender and grade** – comment on any disparities. Where the number of women in the Department is small applicants may wish to comment on specific examples.

No female staff reported applying for flexible working arrangements, as shown in Table 11. Two male staff (SL and P level) applied for flexible working arrangements. Only the professorial level member of staff was granted the flexible working arrangements. On further investigation it was apparent that the SL had not actually applied for the formal flexible working arrangements through the right channel. Instead, he had in fact only applied for timetable flexibility (which is possible but only when a formal flexible working arrangement is already in place), and hence he wasn't able to work flexibly as he wanted to.

Table 11: Flexible working applications by gender & grade; *Not granted – incorrect application

	Lecturer	Senior Lecturer	Professor
Male	0	1*	1
Female	0	0	0

Actions:

★ **Action 3.30:** Raise the awareness of the DMS staff to the University's flexible working policy and how to correctly apply for it.

Words: 123

- b) For each of the areas below, explain what the key issues are in the Department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.
 - (i) **Flexible working** – comment on the numbers of staff working flexibly and their grades and gender, whether there is a formal or informal system, the support and training provided for managers in promoting and managing flexible working arrangements, and how the Department raises awareness of the options available.

The University has a comprehensive flexible working policy, that is provided on the website and is also linked in WIMS webpage.

A clear outcome from the qualitative interviews conducted as part of this application is that all staff in the Department were generally less aware of the availability of flexible working arrangements than they were of their rights regarding Family leave. In particular, junior staff (lecturer level) were much less aware of flexible working options than more senior staff. Several members of staff in fact commented that they had not been aware until our discussions that they could request flexible working and that they are now considering applying. This lack of awareness is reflected in the number of applications for flexible working arrangements, especially when compared to the number of children born in the Department since 2012 and the periods of family leave taken. It also appears that there is some confusion about the process of requesting flexible working arrangements from those who are aware of it.

Q18 - My Head of department is supportive of requests for flexible working (e.g. requests for part-time working, job share, compressed hours).

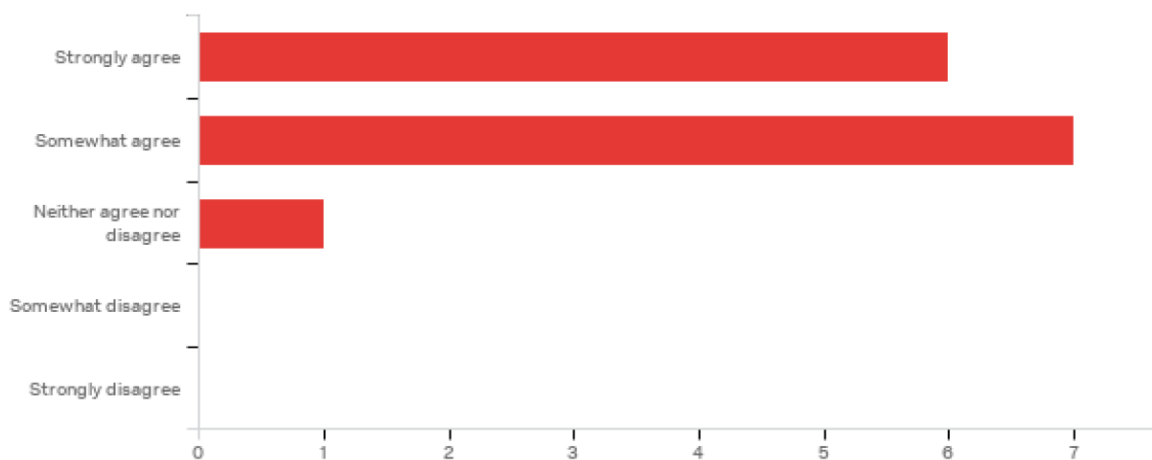


Figure 37: Staff survey result on question: “My Head of department is supportive of requests for flexible working”

Q24 - The Department of Mathematical Sciences has a good culture around flexible working.

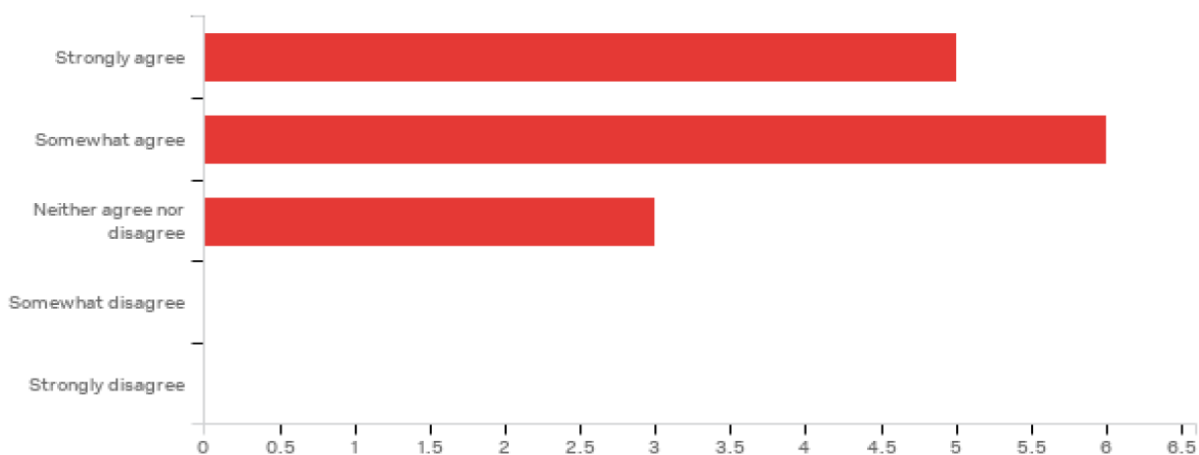


Figure 38: Staff survey result on question: “The Department of Mathematical Sciences has a good culture around flexible working”

In the Departmental staff survey, 92.86% of staff either “strongly agreed” or “somewhat agreed” with “the HoD is supportive of requests for flexible working” (Figure 37). Additionally, most staff were satisfied with the Departmental environment around flexible working (Figure 38).

Actions:

★ **Action 3.30:** *Improve communication to staff about their rights and responsibilities with regard to taking family leave (e.g through the annual PDR process).*

Words: 232

- (ii) **Cover for maternity and adoption leave and support on return** – explain what the Department does, beyond the university maternity policy package, to support female staff before they go on maternity leave, arrangements for covering work during absence, and to help them achieve a suitable work-life balance on their return.

Since March 2015, all staff within the Faculty of Science and health are offered a meeting with their HR Link to discuss their maternity entitlements and pays, shared parental leaves, flexible working policies and benefits, career development funds, keeping in touch (KIT) days, accrual of holidays and the parent network. After this meeting, they are sent a list of useful links including further details on Family Leave Policy, Bank holiday calculator, Childcare vouchers, Essex Offers, Support for parents, details about Flexible Working and Pensions.

Within the Department, the WAM will allow a more balanced allocation of duties and will specifically take into account family leave and flexible working arrangements, and their impact across all staff to ensure a more consistent work-life balance. A pregnancy risk assessment is also completed for all pregnant staff and adjustments made as necessary. Staff are also able to take ‘Time of for dependents’ to deal with certain unexpected or sudden emergencies.

Within the University, a dedicated Parent and Baby room is available for people to use during KIT/SPLIT days or upon their return to work. A day nursery is on site to help staff return to work. Staff are offered discounted rates if their children attend. An uncapped flexible benefit scheme is in place at the nursery, to help make childcare more affordable. All these information are promoted in the WIMS webpage.

Words: 227

Total words for Flexibility and Managing Career Breaks: 1101

Total words count Section 4: 4994

5. Any other comments: maximum 500 words

Please comment here on any other elements which are relevant to the application, e.g. other SET-specific initiatives of special interest that have not been covered in the previous sections. Include any other relevant data (e.g. results from staff surveys), provide a commentary on it and indicate how it is planned to address any gender disparities identified.

As explained in the document, many parental leave requests were made informally during the reporting period and therefore not recorded in the University Family leave data. To learn the actual data the group 4 (led by Dr Edward Codling) had to implement another very specific interview survey to ask all staff about their leave and flexible arrangements directly. This survey contains six questions as listed below. Results are discussed in Section 4: Flexibility and Managing Career Breaks.

Parental leave and flexible working survey

Q0 – gender and grade?

Q1 – have you been entitled to / requested and/or taken maternity / paternity leave 2012-2016?

Q2 – have you considered / requested / taken flexible working arrangements 2012-2016?

Q3 – Are you aware of the university's maternity / paternity (family leave) policies and entitlements? Does the department do enough to make you aware of these policies?

(yes – fully; yes – in part; no – only in part; no – not at all)

Q4 – Are you aware of the university's flexible working policies and arrangements? Does the department do enough to make you aware of these policies?

(yes – fully; yes – in part; no – only in part; no – not at all)

Q5 – What was your experience of parental leave? How easy was it to arrange? What support did you get from department before/after? Were there any issues/problems? Could the process be improved?

Q6 – What was your experience of flexible working? How easy was it to arrange? What support did you get from department? Were there any issues/problems? Could the process be improved?

Total words count Section 5: 252

6. Action plan

Provide an action plan as an appendix. An action plan template is available on the Athena SWAN website.

The Action Plan should be a table or a spreadsheet comprising actions to address the priorities identified by the analysis of relevant data presented in this application, success/outcome measures, the post holder responsible for each action and a timeline for completion. The plan should cover current initiatives and your aspirations **for the next three years**.

The action plan does not need to cover all areas at Bronze; however the expectation is that the Department will have the organisational structure to move forward, including collecting the necessary data.

Action Number	Objective	Rationale i.e. what evidence is there that prompted this action?	Actions already taken to date	Further actions planned	Timescale (start/ complete/ milestones)	Person responsible	Success criteria/ How we'll know we've achieved
1. The self-assessment process							
1.1	Monitor Athena SWAN Progress.	To facilitate application and to ensure the action plan is implemented. (pg 6)	A female member of DMS has been appointed as the AS lead in March 2016, who will provide administrative support to oversee progress against AS actions.	Review the AS leadership by considering personal development needs and workload.	Annually in September	HoD	AS lead appointed and reviewed annually.
1.2		To balance representatives in the SAT and to ensure that everyone's opinion is heard. (pg 4)	SAT established in March 2016, with representation from both genders at all levels. It contains one administrative staff in the Department and two from the HR department. The SAT has been refreshed in September 2016 according to individual sabbatical needs.	Review and refresh SAT membership annually and record on the Work Allocation Model (WAM). Involve professional services/support staff to the SAT.	Annually in September when admin duties are assigned and agreed	AS lead with an agreement with the HoD	Members refreshed by considering individual workload. UG and PGT students are invited to join the SAT.
1.3		To raise awareness of gender equality issue. (pg 8)	AS has been discussed in the Department Steering Group Meeting (Sep 2016), the first DMS Advisory Board Meeting (Sep 2016) and one of the Departmental Meeting (Oct 2016).	Bring AS reports as a standing agenda item at departmental meetings.	At least termly in (all staff) departmental meetings starting from Oct 2016	AS lead with an agreement with the HoD	AS related issues are reported and discussed across the Department, e.g. flexible working, core hours, seminar invitations etc.

1.4		To monitor staff and student satisfaction and increase response rate. (pg 7)	Staff and student questionnaires carried out in June 2016 (90% staff and 12% student response rate).	Monitor Staff and Student data annually and report to the relevant Department and University committees. Include survey responses on WIMS webpage to ensure transparency.	Annually in Autumn term (Oct to Dec) to increase student response rate	SAT and AS Lead	Questionnaires are carried out, gender issues identified and relevant actions taken. At least 80% response rate for staff and 40% for students. Survey results published on WIMS webpage.
1.5	Ensure that the Athena SWAN application is a catalyst for further initiatives to promote women in science.	To promote the ethos of Athena SWAN throughout DMS. (pg 9, pg 39-40)	SAT has met monthly to discuss SWAN issues. Progresses have been reported to all staff in the Departmental Meeting in Oct 2016. Women in Mathematics website established and made live in Nov 2016.	Continue to raise awareness of equality in the Department via WIMS and Departmental meetings. Revise students' handbook to make sure it contains all essential information including the WIMS.	Update the WIMS at least termly with new progresses and information	SAT and AS lead	80% of staff aware of Athena SWAN as measured by annual staff survey. Revision of student handbook complete by Apr 2017.
1.6		To establish internal and external links to share good practice. (pg 7)	An institutional SWAN user group has been established in Aug 2016 and has met twice (Sep 28, Nov 02, 2016) to share experience. The AS lead has represented EMS in LMS Good Practice Scheme Workshop (Oct 12, 2016) and Goldsmiths' AS Gender Equality Event (Oct 20, 2016).	Regularly participate and contribute to SWAN events within and outside Essex, e.g. contribute to institutional Athena swan newsletter to share good practice from DMS; participate and contribute to women in STEMM celebrate day in March 2017.	SWAN user group meets at least termly after submission	SAT and AS lead	SAT members having attended appropriate events.

1.7		To use the available DMS Equality budget (£2,500 in 2016/17) to implement equality/gender actions. (pg 8)	The HoD has introduced the Departmental Equality budget to support AS progress. Part of the 2016/17 budget has been used to cover the participation of LMS Good Practice Scheme Workshop (Oct 12, 2016) and Goldsmiths' AS Gender Equality Event (Oct 20, 2016).	Discuss in the SAT meetings on how to best use the budget to support gender equality. Potential ways include: organising/ attending AS events, establish a formal award for the best performed female students, support female's research/ educational visits, etc.	Feb 2017	SAT and AS lead	A plan agreed on the optimal usage of Equality budget.
2. A picture of the Department							
Student data							
2.1	Fully understand and interpret the underrepresentation.	Number of male students is in general higher than that of females in all levels. (pg 10-13)	Past three years data has been gathered and reviewed for this application.	Monitor and interpret UG/PG Recruitment Data annually. Benchmark the data with similar Maths departments as well as HESA standard.	Annually in July	UG/PG Admissions	Data collected, reviewed and fully interpreted to monitor and identify trends.
2.2	Review the student recruitment process.	The number of applications made by males is more than that from females in all years and levels. (pg 14-16)	The Department runs regular UG Open Day events led by an all-male team, and supported by both male and female student ambassadors.	Review our Open/Visit Day programme to ensure it appeals to both genders, particularly women.	Apr 2017	Open Day team AS lead	Female staff are involved in the Open day team as role models. WIMS webpage is promoted in Open Day events.

2.3			Child care, Part-time study and the WIMS webpage have been promoted in the MSc and PhD advertises.	Review MSc and PhD advertise to ensure the wording is appropriately targeted to attract both men and women. Review childcare support for PG students and make proposals to the Uni SAT.	Oct 2018	Departmental Manager PG admission AS lead	Advertise reviewed and amended to include family-friendly wording.
2.4		Better acceptance rate observed in 2016/17 admission for PGT students. (pg 14)	Anticipated PGT students who had been offered a place were contacted individually via email in Jul-Aug 2016 to increase conversion rate.	Carry out this practice earlier in the year (Mar-Jul) so as to understand and react according to students' needs.	At least annually in March to July	PG admission	Students contacted on time.
2.5	Provide sustained support for female students towards success.	Lower successful rate for female students observed in PGR degrees. (pg 18)	Departmental travel funding is available for all PhD students to attend research conferences.	Encourage female PhD students and postdocs to attend networking events at departmental, university and national level and provide funding (from DMS Equality budget) and/or external funding information to facilitate this.	At least once per year before the travel funding deadline in May	Supervisors	All female PhD students are encouraged by their supervisors to present their researches at conferences and/or research seminars.
2.6			PGR data reviewed and high unsuccessful rates for female students detected.	Collect samples and review the unsuccessful cases to understand the threshold and feedback on the Departmental practice.	Apr 2019	Supervisors AS lead	Samples collected, individual cases reviewed to identify areas for additional supports.

2.7		Average degree outcome of female UG students is worse than that of males. (pg 16-17)	The Department offers a Maths support scheme for university wide UG students seeking for help from pioneer Maths students.	Monitor the female:male ratio of supporting membership to ensure gender balance.	Annually in Sep	DoE	Balanced gender in the Maths support team. Average performance of female UG students has significantly improved in 2013-2016, which makes a balanced gender support realistic.
Staff data							
2.8	Understand the reason for underrepresented female staff data.	Women are under-represented in DMS, especially at Senior Lecturer and Professor levels.	Staff data has been reviewed for 2012/15. Female:male ratio has increased from 0:13 to 2:16.	Monitor and interpret staff data annually. Benchmark the data with similar Maths departments as well as HESA standard.	Annually in June	HoD AS lead	Data collected, reviewed and fully interpreted.
2.9			Reviewed data to identify the underrepresentation in higher level academics.	Review the career paths of current male and female staffs, analyse on the differences.	Dec 2018	AS lead	All staff interviewed, data collected and reviewed.
3. Supporting and advancing women's careers							
Key career transition points and Career development							
3.1	Monitor gender of applicants and hires to ensure gender neutrality.	Significantly unbalanced female:male ratio observed in recruitment data in past three years. (pg 21, 24)	Followed the university-wide gender equality rule in recruiting, e.g. assess candidate against one's experience, ability and potential; include a minimum of two females in the Selection Committee; promote childcare provision on job adverts, etc.	Continue to monitor applicants and hires data.	Annually in Sep	SAT HoD	Annual report to FACULTY STEERING GROUP on gender of Applicants.

3.2			A Women in Mathematical Science (WIMS) webpage has been made live in Oct 2016. Childcare, flexible working policies have been promoted on the WIMS.	Showcasing the role that women play in Mathematics so as to attract more female applicants. Regularly update with good practice, events and signposting.	Webpage will continue to be updated	SAT and AS Lead	50% of staff/student aware of Athena SWAN webpage as measured by annual survey.
3.3			Unconscious bias training has recently been introduced by learning and development. No DMS staff have had the opportunity to complete this training.	Participate and take an active role in university training in Unconscious Bias.	Sep 2017	HoD	Training records. Training to be completed by all DMS staff by Sep 2017.
3.4			Application for departmental Athena SWAN Bronze Award in preparation.	Gain Athena SWAN Bronze award and make this prominent on the Department webpage and job adverts.	Submit application in Nov 2016	HoD SAT AS Lead	Successful award of departmental Athena SWAN Bronze Award.
3.5			AS lead has attended LMS gender event on Oct 12, 2016 and reported to the SAT about the Good Practice.	Department to apply for the LMS Good Practice Scheme and make this prominent on the Department webpage and job adverts.	Submit by December 2016	HoD SAT AS Lead	Confirmation by LMS that the Department has signed up; inclusion of this on the Departmental webpage.

3.6	Encourage female staff to apply for promotion.	In the past staff have put themselves forward as applicants for promotion, which may favour staff from particular backgrounds. (pg 23-24)	Currently the promotion/ permanency are highlighted through PDR process.	Guidance to be given to staff about when they may be well placed to apply for promotion.	Prior to 2017 Annual Review (March 2017)	HoD DoE DoR	Formally discussed at Research and Education committees and PDR process.
3.7			Appraiser training offered by the university.	Ensure all new appraisers attend the University's Appraiser training and encourage appraises to attend Appraise training so they know what to expect.	Prior to 2017 Annual Review (March 2017)	HoD	Successful completion of training by Appraisers.
3.8			Promotion criteria, Career development, training opportunities have been published on WIMS webpage.	Keep updating with events and additional supports to women on WIMS to raise awareness to females.	Keep updating according to changes	SAT AS Lead	100% of staff awareness of promotion criteria as measured by annual staff survey.
3.9			Nonpositive feedback observed through Staff Survey on question relevant to career development and promotion criteria.	Survey into staff to understand individual's opinion on what is overlooked in the promotion criteria/procedures and in their personal development needs.	Feb 2018	SAT AS Lead	Problem identified and reported to the Department Steering Group.

3.1 0	Enhance settlement experience of new/ junior staff Induction and Training.	Improve access to induction information. (pg 28)	Online induction resources including a checklist and University wide networking events are available.	Revise handbook for new staff to include information on promotion and career development procedures, as well as information on the Department's family friendly policies and training courses.	April 2019	Department Manager	Revision of handbook completed. 100% of staff awareness of promotion criteria and working flexible policies as measured by annual staff survey.
3.1 1			There is a departmental induction pack, will merge the information contained with induction handbook to allow easier access.				
			It is mandatory for new staff to complete online equality and diversity training within 6 months of appointment.	Continue to monitor and ensure 100% completion of the online equality and diversity training.	Within 6 months of new appointment	HoD Department Manager	100% completion of the online equality and diversity training.
3.1 2		To support new staff and to take effective use of the mentoring scheme and PDR process. (pg 25-27)	All junior staff (under probation) are allocated a senior mentor to guide their development.	Staff under probation meet at least yearly with their mentor to discuss about the PDR and any other related issues.	Ongoing	HoD Mentors	Probationary staff successfully completing probationary period.
3.1 3			New staff meet with the HoD to discuss training needs, workload, family-friendly policies and PDRs.	Continue to monitor the PDR process. Set up 'Mentoring Circles' of mixed gender and experience to discuss career development.	Ongoing	HoD Mentors	Increased awareness of new staff on training, workload and flexible working policies.
3.1 4		Good practice observed from other departments.	Set up a focus group with new staff to discuss promotion and career development procedures.	April 2017	HoD	Group set up. 80% of new staff awareness of the focus group via staff surveys.	

3.1 5	Enhance the potential for career development of annual appraisal.	To identify personal development needs through formalised PDR process. (pg 25-27)	A formalised annual PDR procedure is carried out for every staff to identify career development needs and promotion.	Monitor the impact of PDR procedures on female applications for promotion and success rates.	Aug 2017	HoD	PDR procedures completed and monitored.
3.1 6			New academics are required to undertake CADENZA (Higher Education Academy Certificate).	Monitor and encourage staff under probation to apply.	Ongoing	HoD and Mentors	Successful applications from new academics in CADENZA (Higher Education Academy Certificate).
3.1 7	Encourage female students' transition to a sustainable academic career.	To raise awareness of well performed female students. (pg 16, 30)	Female role models are promoted on WIMS.	Updates with information on the potential female award winner (from DMS Equality budget) and supporting events.	Keep updating with new information	SAT AS lead	Models appear and updated regularly on webpage.
3.1 8		To facilitate communication between students and with staff. (pg 30)	Students are assigned a personal tutor and a student 'peer'. Females can request a female tutor or 'peer'.	Monitor the student peers to ensure gender neutrality.	Review yearly in Oct	Senior tutor AS lead	100% student awareness of the peer advising scheme measure by annual student survey.
3.1 9			Set a Student Staff Liaison Committee to allow students voice to be heard.	Monitor the student representatives to ensure gender neutrality.	Review yearly in Dec	HoD UG/PG Director	Reports from Student Staff Liaison Committee.
3.2 0	Encourage female students' competitive in employability.	To ensure degrees are well designed to satisfy employability needs. (pg 30-31)	The Study Abroad option is valid for all degree titles. The scheme is supported by a female Departmental Study Abroad Officer (DSAO). 56% of participants in 2015-2016 were female.	Keep promoting the Study Abroad degrees and provide substantial supports. Monitor the number of participants.	Annually in May	DSAO Personal tutor	Study Abroad opportunities promoted in induction events and WIMS. Tutor offered discussion to raise awareness of the opportunity.

3.2 1			<p>The Industrial Placement is valid for all degree titles. The scheme is supported by a male Industrial Placement Officer (IPO).</p> <p>Placement years are new to the Department, with only one student (male) so far have completed a placement (in 2014/15). One female student will be on placement in 2016/17 with nine female students registered on courses with placement years in future years (out of 13 students, so 69%).</p>	<p>Keep promoting the Industrial Placement degrees and provide substantial supports.</p> <p>Monitor the number of participants.</p>	Annually in Aug	IPO EDD Personal tutor	<p>An item on industrial placement included in the first year Employability module.</p> <p>Industrial Placement opportunities promoted in induction events and WIMS.</p> <p>Tutor offered discussion to raise awareness of the opportunity.</p>
Organization and culture							
3.2 2	Involve female staff in the work of committee.	Female is under-represented in the main departmental committees. (pg 32-33)	Currently there are female staff in the Department Steering Group, Department Education Committee, Department Exam Board, Staff/Student Liaison Committees and the Research Students Progress Committee.	Encourage female academics to participate in committees as a part of yearly appraisal, providing that this does not impact negatively on their more important duties which may lead to permanency or promotion.	As the annual appraisals go on in Sep	HoD	Involvement of female staff in some committees, as appropriate.

3.2 3	Ensure that female staff are happy with the duties allocated.	To ensure the Workload Model is transparent and reviewed regularly. (pg 35)	The current survey shows most staff are happy with the allocation of duties.	Continue monitoring staff satisfaction with allocation of duties, especially across the split into male/female members of staff.	Annually as the Staff Survey goes on	AS lead	80% of staff satisfaction of duty allocation as measured by annual staff survey.	
3.2 4			A formalised workload model is in use in the DMS.	Continue revising the workload model as needed. Data on how the workload fits in with the workload model is collected regularly.	Annually in Sep	HoD	No greater workload of female staff is shown by the workload model.	
3.2 5	Keep the Departmental environment inclusive.	To ensure that staff with care duties are not excluded from social gatherings. (pg 37)	The current survey shows most staff are happy with the social gatherings and meeting times. A discussion of core hours is taking place as a part of preparing this document.	Monitor social gatherings and meeting times (such as morning coffee sessions, departmental meetings, research seminars) and revise, if needed, to make the times convenient for staff with care duties, i.e. consider changing core hours to 10am-2pm in general.	Oct 2018	HoD and AS lead	80% of staff satisfaction of social gatherings and meeting times measured by annual staff survey. Core hours discussed in Departmental Meetings.	
3.2 6			Keep outreach activities inclusive. (pg 41)	So far the outreach activities attract both male and female participants.	Keep data from outreach activities and check it regularly to ensure that they continue being female-friendly and inclusive.	Annually in Oct	HoD DoE	No noticeable gender bias in the future years.
3.2 7			Currently approximately one seminar speakers per year is female.	Invite more female researchers to give seminar talks.	Ongoing	Seminar organizer AS lead	Staff are encouraged to invite female speakers from all relevant areas in Departmental meeting.	

3.2 8		Concerns on unbalanced pay and unacceptable behaviour observed in Staff Survey. (pg 37)	Since the survey was anonymous, it is not possible to ascertain if there is a gender bias. With a small number of female staff this can be a sensitive and personal issue to investigate.	Support the University's Faculty Focus Group to study on the concerns on pay and unacceptable behaviour.	May 2017	HoD HR FSG	The unacceptable behaviour recognized and fully understood by all DMS staff.
Flexibility and managing career breaks							
3.2 9	To make staff more aware of their rights of taking leaves and to ensure access to them.	The interview results recommended that improved understanding of the family leave policy by senior member of staff would have been beneficial to ensure entitlements. (pg 42)	A formalised workload model has been developed and used.	Ensure that the HoD is aware of the potential difficulties with staff taking paternity leave and make provision through the workload model so that staff don't have to organise their own cover or 'catch up' afterwards.	Sept 2017	HoD HR	Workload model ensures staff to not have to organize their own cover.
3.3 0			The interviews conducted during the production of this document has already begun to improve awareness.	Improve communication to staff about their rights and responsibilities with regard to taking family leave and how this fits into their specific individual departmental roles (e.g through the annual PDR process).	Sept 2017	HoD HR	80% of staff awareness of family leave as measured by annual staff survey.
3.3 1			The interviews conducted during the production of this document has already begun to improve awareness.	Raise the awareness of the DMS staff to the University's flexible working policy and how to correctly apply for it.	Sept 2017	HoD HR	80% of staff awareness of flexible working policy. More successful applications for flexible work.

3.3 2	To make sure the management of leave and flexible working schemes are effective.	Some informal paternity leave applications were not recorded in the central data. (pg 42)	None.	All paternity leave applications are formalised through the Family Leave policy so to ensure this is recorded and monitored.	Sept 2017	HoD HR	No informal paternity leave taken in place of formally recorded leave.
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