Department Application
Bronze and Silver Award

Name of institution	University College London
Department	Mathematics
Focus of department	**STEMM**
Date of application	November 2020
Award Level	**Silver**
Institution Athena SWAN award	**Date: 2015** **Level: Silver**
Contact for application Must be based in the department	Prof Helen Wilson
Email	helen.wilson@ucl.ac.uk
Telephone	020 7679 1302
Departmental website	https://www.ucl.ac.uk/maths/

1. LETTER OF ENDORSEMENT FROM THE HEAD OF DEPARTMENT
Recommended word count: Bronze: 500 words | Silver: 500 words

Dear Panel,

The information presented in the application (including qualitative and quantitative data) is an honest, accurate and true representation of the department.

I have been Head of Department and Athena SWAN co-chair since 2018, the first woman to hold these posts.

> *"Being the first is not something to be proud of, but is a calling to ensure that one is not the last"*
> *Mamokgethi Phakeng*

I am profoundly grateful for the effects that Athena-inspired initiatives have had on my career, and am determined to embed these changes into our culture in a structural way, so that future women in the department are similarly supported regardless of who leads the department by then. An annual budget of £2,000 is committed to EDI initiatives; more importantly, the SAT is using our action plan structure to commit the department to difficult changes. Once our Athena status is based on these ambitious actions, we will have the leverage to make them reality.

We are a growing research and teaching department with a large, gender-balanced undergraduate population. Our small MSc population is also balanced; further along the pipeline, though, the leaks are obvious.

In our previous submission, when we were first awarded Silver, our greatest concern was the scarcity of female PhD students. We took action (including eliminating all-male interviews for female students) and our gender ratio is now level with the national average. However, our CDT does even better: we will learn from their success going forward.

Another success was the introduction of peer feedback on grant applications before submission: our female staff are now more successful with funding than their male peers (defying the national trend).

However, not everything is great. The gender ratio of our postdoc population has fallen badly, and our female PhD students are significantly more likely to consider leaving mid-degree than their peers. We plan concrete actions to tackle both these problems, including postdoc-led mock interviews for PhD students and a new recruitment structure for externally-funded research fellowships.

One highlight of the period has been our action on the gender pay gap. We took the opportunity of a major staff expansion to create a "rule of thumb" mapping between experience and starting salary. Outliers were made improved salary offers as a result, and in more recent appointment rounds our initial offer has been guided by this rule.

UCL Mathematics has always resisted a formal workload model. This has meant roles being assigned at the discretion of the HoD, with fairness dependent on the HoD's impartiality. With increasing staff numbers, the need for a full workload model, its equity and transparency, is now imperative: this is one of the major commitments of our action plan.

Finally, I must comment on the pandemic. I am immensely proud of the way my colleagues have pulled together: looking after each other's mental health, battling technology, teaching each other new skills, caring for our students and each other. 2020 has been horrendous, but our community is stronger for it.

Yours sincerely,

Helen Wilson.

[Word count: 500]

Abbreviation	Meaning
AUA	Association of University Administration
BAME	Black, Asian and Minority Ethnic
BEAMS	School of the Built Environment, Engineering and Mathematical and Physical Sciences
BSc	Bachelor of Science
CDT	Centre for Doctoral Training
CIPD	Chartered Institute of Personnel and Development
CORU	Clinical Operational Research Unit
CSTC	Commons Science and Technology Committee
DDM	Deputy Departmental Manager
DM	Departmental Manager
DORA	Declaration of Research Assessment
DTC	Departmental Teaching Committee
EDI	Equality, Diversity and Inclusion
EPSRC	The Engineering and Physical Sciences Research Council
EU	European Union
F	Female
F2F	Face-to-face
FMSP	Further Maths Support Programme
FOI	Freedom of Information
FTE	Full-time Equivalent
HEI	Higher Education Institution
HESA	Higher Education Statistics Agency
HoD	Head of Department
HR	Human Resources
IMA	Institute for Mathematics and its Applications
ISD	Information Services Division
KLB	Kathleen Lonsdale Building
LM	Line Manager
LMS	The London Mathematical Society
LSGNT	The London School of Geometry and Number Theory
M	Male
MAPS	Faculty of Mathematical and Physical Sciences
MSc	Master of Science (PGT level)
MSci	Master of Science (UG level)

Abbreviation	Meaning
NSS	National Student Survey
O/S	Overseas
PDRA	Postgraduate Research Associates
PGCE	Postgraduate Certification Education
PGR	Postgraduate Research students
PGT	Postgraduate Taught students (i.e. MSc students)
PGTA	Postgraduate Teaching Assistant
PhD	Doctor of Philosophy
PI	Principal Investigator
PS, PSS	Professional Service, Professional Service Staff
PT	Part-time
RAE	Research Assessment Exercise
REF	Research Excellence Framework
RHCSA	Red Hat Certified System Administrator
SAT	Self Assessment Team
SMT	Senior Management Team
SSO	Senior Staffing Officer
T&L	Teaching and Learning
TOPS	Transforming Our Professional Service
UCL	University College London
UG	Undergraduate (student)
USA	United States of America
UK	United Kingdom
UKRI	United Kingdom Research & Innovation
WP	Widening Participation

2. DESCRIPTION OF THE DEPARTMENT

Recommended word count: Bronze: 500 words | Silver: 500 words

Word count: 560

The Department of Mathematics is a founding department of UCL, established in 1826. Research in the department covers broad areas of pure and applied mathematics with notable research groups in analysis, fluid mechanics, mathematical physics, geometry, number theory and mathematical modelling. We are a research-intensive department (ranked 19th in REF2014), with excellent teaching (92% overall satisfaction in 2019 NSS), and a well-established outreach programme. Unlike most UK universities, Mathematics and Statistical Sciences are two individual departments.

The department currently holds an Athena SWAN Silver award. Since our previous application, we have appointed our first female HoD, Prof. Helen Wilson, in 2018. The department has also grown significantly. The UG student population has increased by 16% with the PGR population increasing by 28%. The increase in student population is reflected in the increase of teaching fellows (120%, 5 in 2016, 11 in 2019), academic staff (17%) and PS staff (15%). The data continues to raise the issue of the under-representation of women (see Figure 2.1), particularly at post-doctoral level, which we address in our action plan.

Sitting within the department, the Clinical Operation Research Unit (CORU) is a small world-class research group applying operational research to problems in health care. Prof Christina Pagel is currently the first female director of CORU, and a noted member of Independent SAGE.

Alongside King's College London and Imperial College London, the department is the grant holder for an EPSRC Centre of Doctoral Training (CDT) in pure mathematics. The London School of Geometry and Number Theory (LSGNT) is the only CDT in pure mathematics in the UK and has established an international reputation.

Physical space is an issue across UCL and particularly in our department. In addition to the CDT and CORU, both based in separate buildings, some of our PhD students are based in a fourth neighbouring building (KLB) (see map in Figure 2.2). As of September 2019, the department has incorporated an additional floor on our main site (the building we share with the students' union), acquired after years of negotiation with UCL senior management.

The department management structure is flat, and broadly divides into three sections, each reporting to the HoD. Academic staff fall under the promotions committee; professional services under the departmental manager, and non-professorial CORU staff under their director (see Figures 2.3 and 2.4). The department is one of seven which comprise the MAPS Faculty.

We are a friendly department that aims to challenge and stretch our students in a welcoming and supportive environment.
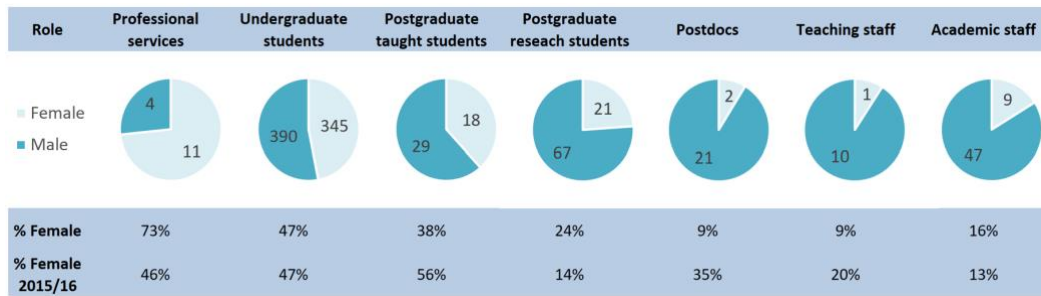
Role	Professional services	Undergraduate students	Postgraduate taught students	Postgraduate reseach students	Postdocs	Teaching staff	Academic staff
■ Female ■ Male	4 / 11	390 / 345	18 / 29	21 / 67	2 / 21	1 / 10	9 / 47
% Female	73%	47%	38%	24%	9%	9%	16%
% Female 2015/16	46%	47%	56%	14%	35%	20%	13%

Figure 2.1: Current snapshot of the department compared with the previous Athena SWAN application.

UCL Bloomsbury Campus
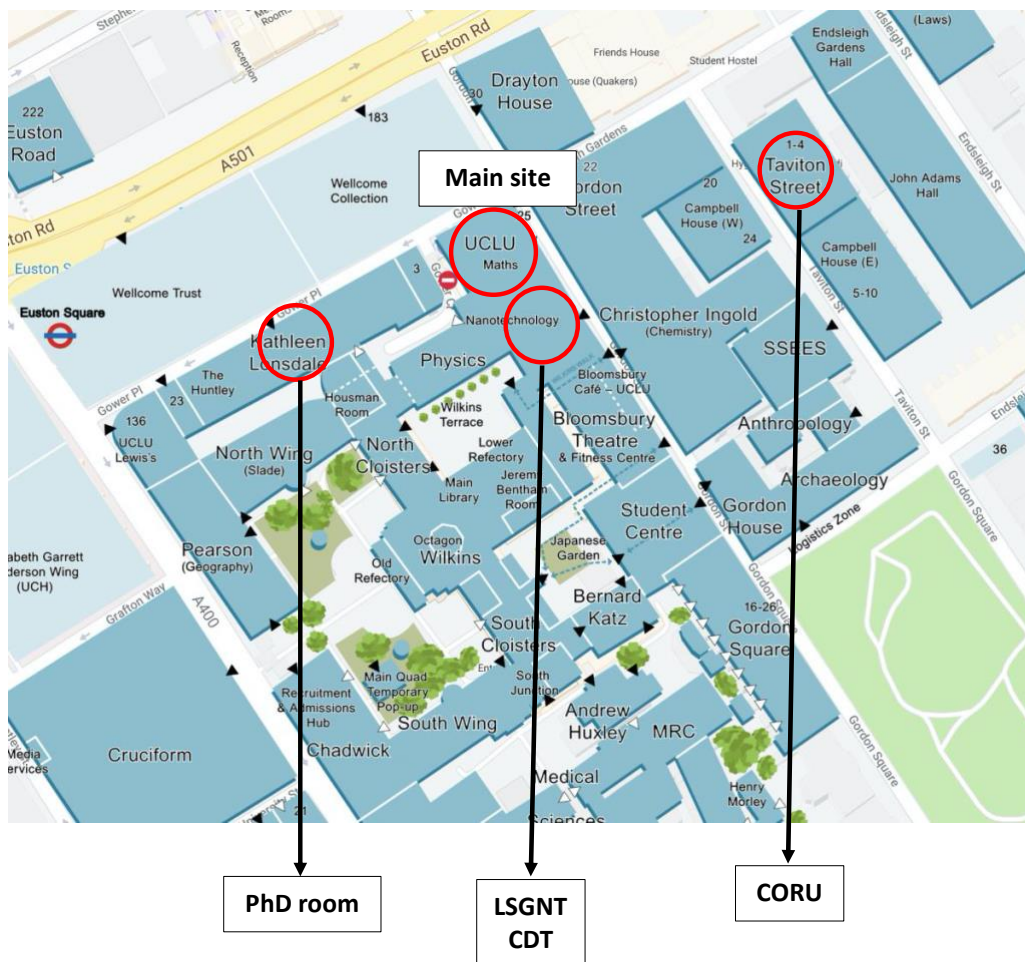
Figure 2.2: Department of Mathematics four different sites shown on UCL campus map.
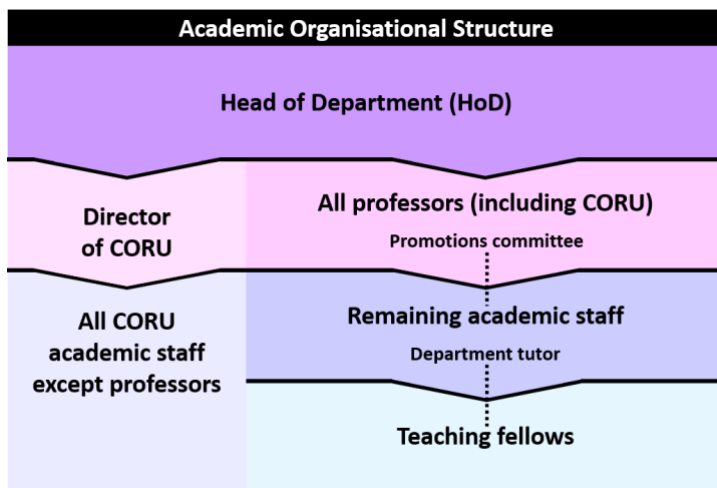
Professional Services Organisational Structure

Head of Department (HoD)						
Director of CORU	Departmental Manager					
Finance Administrator	(Senior) Teaching and Learning Administrators (four roles)	Deputy Departmental Manager/ Finance Officer	LSGNT Centre Manager	Senior Staffing Officer	Systems Manager	MSc Administrator
		LTCC Administrator	LSGNT Administrator	Administrator	Systems Administrator	

Figure 2.3: Professional services staff management structure.

Academic Organisational Structure

Head of Department (HoD)	
Director of CORU	All professors (including CORU)
	Promotions committee
All CORU academic staff except professors	Remaining academic staff
	Department tutor
	Teaching fellows

Principal investigators manage their postdoctoral research associates, the Deputy HoD manages externally funded research fellows

Figure 2.4: Academic staff management structure.

Figure 2.5: Images of staff, students and events.

3. THE SELF-ASSESSMENT PROCESS
Recommended word count: Bronze: 1000 words | Silver: 1000 words

Word count: 908

(i) A description of the self-assessment team

Our departmental Equality and Diversity Committee has a remit which includes Athena SWAN and other EDI and good practice activities. We have the involvement and commitment of senior members of staff, including the HoD (previous HoDs have also chaired the SAT) and DM. In September 2018, Helen Wilson became (co-)chair of SAT when she became HoD and introduced a female/male co-chair team with Luciano Rila (Senior Teaching Fellow, Outreach Coordinator). Luciano was a member of the previous SAT and had organised several high-profile Women in Maths events for school-aged children.

Members are volunteers with two exceptions, invited for their expertise: Christina Pagel (CORU Director, member of UCL SAT) and Helen Higgins (DM, Departmental Equal Opportunity Liaison Officer). Helen's longstanding commitment to equality was recognised in November 2018 with the BEAMS Professional Service Award for *valuing staff and delivering equality and diversity*.

Figure 3.1: Helen Higgins, our Departmental Manager, receiving her award for valuing staff and delivering equality and diversity (Nov 2018).

We have good gender balance, critical mass from both pure and applied mathematics (disciplines with very different research cultures) and representation from both PS staff and teaching staff at a range of seniorities and PGR students. We have members from ethnic minorities and members who are gay, bringing their insights into intersectionality to the table. We do not, currently, have representation from our few very junior PS staff (grade 6), nor from our two technicians.

The workload of Athena SWAN is recognised in various ways. Academic staff use it to demonstrate their Enabling activity when applying for promotion; it is included formally in the job description for Luciano (co-chair) and mitigated for other staff by a regular refresh process (see 3(iii) below).

Table 3.1: Equality and Diversity Committee membership – recent past members shaded.

UCL Role		Name (job title); *caring responsibilities in italics*	Departmental and UCL responsibilities; *specific Athena responsibilities in italics*
Academic Staff 3F, 4M		**Rod Halburd** (Professor of Pure Mathematics, grade 10) he/him *One school-age child*	Departmental committee membership: Promotion; Research (chair). Departmental Research Proposal Coordinator, Departmental Appraiser. *Postdoc career development*
		Hao Ni (Associate Professor of Applied Mathematics, grade 9) she/her	Turing Fellow at the Alan Turing Institute. *Organised several Women in Mathematical Science events in 2018-2019*
		Nick Ovenden (Senior Lecturer of Applied Mathematics, grade 9) he/him *Three small children*	Vice-Dean (Development), REF Impact Lead, Mentor to Teaching Assistants. *Liaison with PGTAs; academic staff section of submission*
		Christina Pagel (Professor of Applied Mathematics, Director of CORU, grade 10) she/her	Director of CORU. Departmental Promotion Committee, Institutional Athena SWAN SAT. *Everyday sexism survey; data presentation*

		Ed Segal (Associate Professor of Pure Mathematics, grade 9) he/him *Four young children*	*Organisation and culture section of submission*
		Luciano Rila (Senior Teaching Fellow, Departmental Outreach Coordinator, grade 8) he/him	*Athena SWAN co-chair.* Member of: Faculty EDI Committee, UCL Gender Equality Group, UCL Widening Participation Workgroup, Departmental Teaching Committee.
		Helen Wilson (Professor of Applied Mathematics, HoD, grade 10) she/her *Two school-age children*	*Athena SWAN co-chair.* Departmental committees: Research (chair), Promotion (chair), Teaching, Staff-Student, Green Team. Departmental Appraiser. Friend of Out@UCL, UCLWomen committee.
Professional Services Staff 3F, 1M		**Harry Donnelly** (Senior UG Administrator, grade 7) he/him	Member of the award-winning departmental Green Team. *SAT process description*
		Kate Fraser (Senior Staffing Officer, grade 7) she/her	Member of: UCL HR Workgroup, MAPS Staff Survey Working Group. Studying for Level 7 CIPD HR Certificate. *Career transition points*

		Helen Higgins (Departmental Manager, grade 8) she/her	Departmental Equal Opportunity Liaison Officer, member of: UCL Astrea, RaceMatters@UCL, Friends of Out@UCL. *Pandemic response, PS staff development, appointment processes*
		Sukh Thiara (Senior UG Administrator, grade 7) she/her	UCL Dignity Advisor. Member of: UCL Astrea, RaceMatters@UCL, Friends of Out@UCL, departmental Green Team. *Undergraduate student experience, Proofreading*
PDRA 1F, 1M		Ruben Carrasco (Applied mathematician, grade 7), he/him	Founder member of the award-winning departmental Green Team *PhD student career development— postdoc advice sessions*
		Kim Moore (Pure mathematician, grade 7), she/her	*PhD student career development— postdoc advice sessions*
PhD Students 2F, 2M		Carmen Arnau Cabrera (Applied mathematician, PGTA), she/her	Editor of Chalkdust magazine *SAT information gathering, PhD student survey 2019*
		Chris Evans (Pure mathematician), he/him	*PhD student survey 2017*

| | | **Emily Maw** (Pure mathematician, LSGNT), she/her | *PhD student survey 2017* |
| | | **David Sheard** (Pure mathematician, LSGNT), he/him | Co-director of London Maths Outreach, editor of Chalkdust magazine. *PhD student survey 2019, copyediting this submission* |

(ii)   An account of the self-assessment process

The Equality and Diversity committee usually meets four times a year, with extra meetings when needed. Meetings focus on planning EDI initiatives, developing staff and student consultation, analysing results of consultations and planning follow-up actions, and monitoring progress of the action plan, including regular data reporting.

In the year leading up to the Athena SWAN submission in April 2020 (before the pandemic), the committee met monthly but with no expectation that every member would attend. The agenda was sent in advance so that committee members could decide what they could contribute to the meeting. During remote working meetings continued via Microsoft Teams.

EDI is a permanent item in departmental meetings (twice yearly) where we communicate our activities and survey results to all staff and PGTAs. PhD students are kept informed via email.

Some of the projects undertaken by the SAT:
- **Staff survey**: we regularly reviewed departmental responses to the UCL Staff Survey disaggregated by gender. The 2018 survey showed gender disparity in several questions, leading us to formulate actions. We ran a departmental staff survey in 2019 containing only questions relevant to the impact of those actions, with better uptake (72% of all staff including at least 63% for female and 60% for male and some undisclosed). Improvements for female staff included sense of personal accomplishment and job recognition. Other areas improved the gender balance without improving overall (eg "fair pay" improved for male from 38% to 57% satisfied but for female it went from 70% to 55%).
- **PhD student survey**: Run by the PhD students in the committee in 2017 and then again in 2019, using similar questionnaires to allow for comparison. The response rate in 2019 was 34%, reduced from 58% in 2017. Results showed improvements in most areas but, significantly, in 2019 it identified a concern that female students 'considered leaving PhD early occasionally or often'. Given the low response rate, we decided to run a short anonymous questionnaire, led by the HoD, with one question, 'Have you considered leaving your PhD early?' (No/Occasionally/Often) and an optional comments box. The response rate increased to 51% and results confirmed a higher proportion of students were considering leaving their PhD early than in 2017. The gender disparity was smaller than in the initial 2019 survey but female

students were still more likely to consider leaving early (69%F, 52%M). The main reasons included lack of confidence, isolation, lack of structure and financial difficulties. The SAT had two 90min meetings to plan actions to be taken forward to address this issue.

Action 6.1 Improve support for PhD students:

Among other steps we will help PhD students feel more part of the department (Action 6.1.4), help students to map out their career progression both during their PhD (Action 6.1.2) and beyond (Action 6.1.3), and promote the sharing of best-practice among PhD supervisors (Action 6.1.1).

- **Postdoc advice to PhD students**: this session was organised by Kim and Ruben, the two SAT postdocs. It was a panel discussion with several postdocs followed by a reception (section 5.3 (iv)).
- **Everyday Sexism**: We ran an anonymous online survey where people in the department could share their stories of Everyday Sexism. We received 32 entries (both female and male), and emerging themes were shared in the departmental meeting: most commonly, female staff being called girls, being asked to take minutes/to photocopy, or being ignored by external collaborators. We also identified that the atmosphere in the overcrowded KLB PhD student room could be improved. This led to a temporary action of turning the UG reading room into a PhD student room, to house more PhD students on our main site and refresh the PhD population of both sites.

(iii)   Plans for the future of the self-assessment team

The SAT will continue to meet at least quarterly and run staff and student surveys every two years. Recruitment for the SAT focused on ensuring representation of different departmental groups. While PhD students and postdocs had clear duties (see Table 3.1) and an obvious end date to their spell on SAT, staff members had a less defined role in the committee, and levels of commitment varied. Once this submission is complete, we will implement a number of actions addressing the restructuring of the EDI committee as follows:

Action 1.1 Establish clear guidelines regarding membership roles and commitment:

First developing terms of reference (Action 1.1.1) and a sub-group structure framed around the action plan (Action 1.1.2).

Action 1.2 Refresh and restructure the committee membership:

As part of our commitment to ensuring the Athena burden does not fall on a fixed small group, recruiting a new committee within the sub-group structure (Action 1.2.1). We will also incorporate undergraduate students for the first time, and grade 6 PS staff (recent growth means this is not an unreasonable expectation) (Action 1.2.2).

Action 1.3 Ensure the department is better informed and more involved in EDI strategy:

We will introduce a termly EDI newsletter to all staff and students (Action 1.3.1) and formalise the structure for our interactions with the wider department (Action 1.3.2), with a calendar of SAT visits from non-SAT staff who hold key departmental roles.

☀ **Action 1.4 Structured management of our Action Plan:**

We will embed the action plan's timeline, the annual data reporting cycle, and the SAT visits into an EDI calendar.

4. A PICTURE OF THE DEPARTMENT

Recommended word count: Bronze: 2000 words | Silver: 2000 words

Word count: 1925 Words

4.1. Student data

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

N/A

(ii)   Numbers of undergraduate students by gender

Our UG female-to-male ratio has remained consistent since 2014 (actually since 2011) with 47% female (Figure 4.1), above the UK sector average. In 2019 we ran a focus group of female UGs about why they chose to study with us, and the response indicated that the actions laid out in the Impact Box below explain how we attract a high number of females.

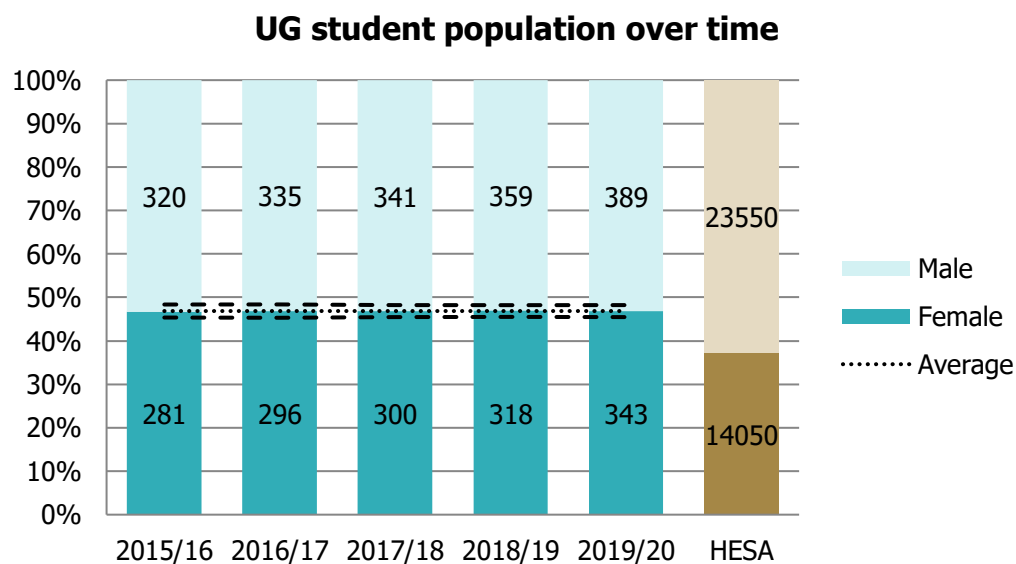**UG student population over time**

Figure 4.1: The proportion of our UGs who are female over the last 5 years, with benchmark data (HESA 2017-18: DT051 Table 9). The 5-year average is overlaid, together with the range of natural variation expected over 5 years – put another way, the chance of seeing numbers outside this range due to random fluctuations is less than 1/5 or 20%.

The department recruits many overseas students, overwhelmingly from China. In Figure 4.2 we stratify our intake by fee status; most overseas students are female, contributing

to our higher proportion of female UGs compared to other UK universities. This shows that our admissions staff welcome female UGs. One of our entry requirements is A-level Further Mathematics so the benchmark for UK students is the proportion of Further Mathematics students who are female (around 28%), rather than the sector average. We consistently recruit at or above this benchmark: 28-33% (Figure 4.2).

<table>
<tr><td colspan="2" style="background:#1a5a2a;color:white">📊 **Impact Box**</td></tr>
<tr><td colspan="2">**Issue Identified**: National proportion of female UGs is below 50% (37% in 2017-18, HESA).</td></tr>
<tr><td colspan="2">**Action**: Outreach promoting mathematics to female students:
• "Women in Mathematics Day" for year 12 leavers has run for over 25 years
• Female representation at open days (staff and students)
• Positive portrayal of female mathematicians on our website (Figure 4.4)</td></tr>
<tr><td colspan="2">**Impact**: In 2019/20 we recruited an unprecedented majority of female UGs (Figure 4.2).</td></tr>
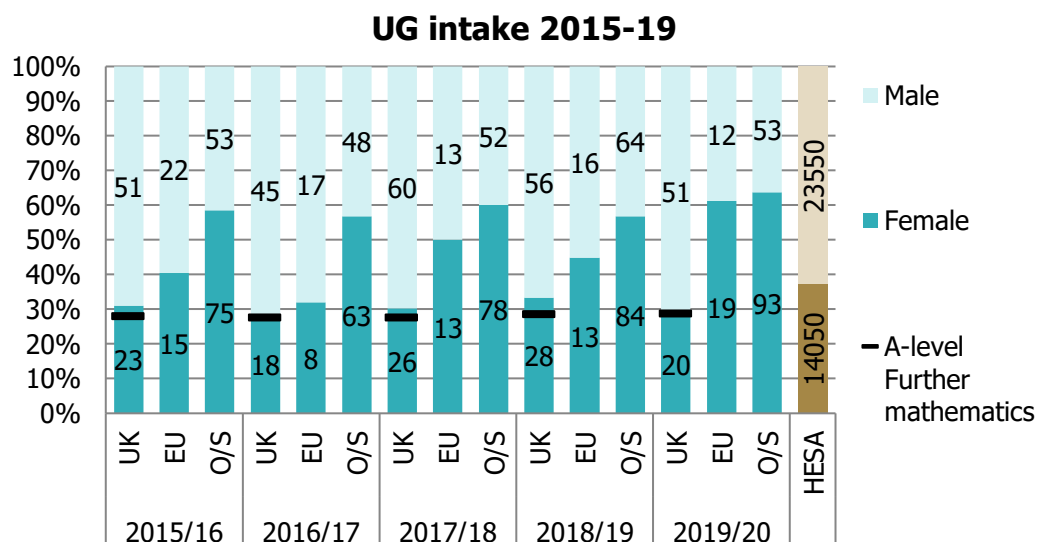</table>

UG intake 2015-19

Figure 4.2: UG intake disaggregated by fee status 2015-19, together with benchmark data (HESA 2017-18: DT051 Table 9). Overlaid on the UK bars are the percentages of A-level Further Mathematics students who are female each year (data from the Joint Council for Qualifications).

UG recruitment 2015-2019
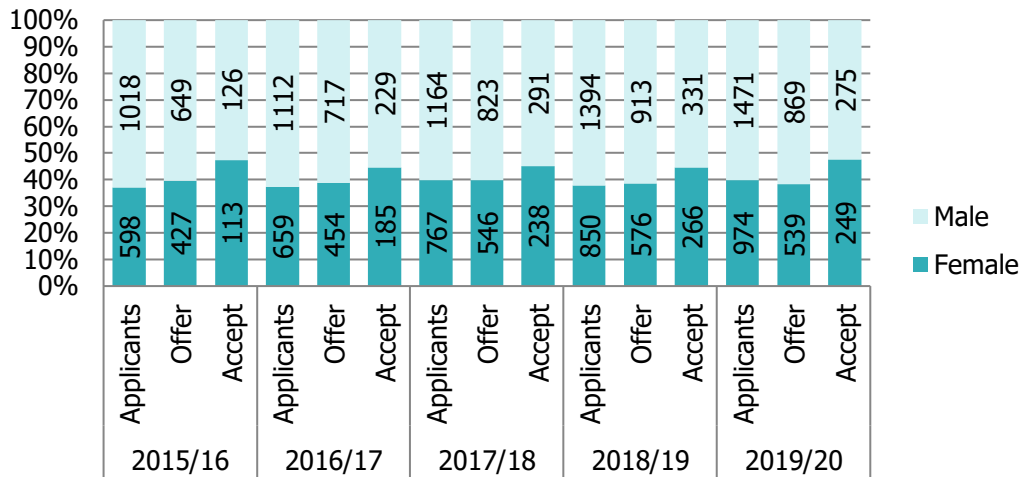
Figure 4.3: UG recruitment pipeline 2015-19.

UCL Department of Mathematics
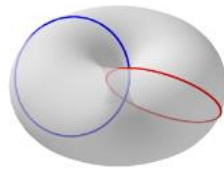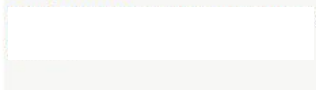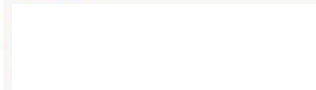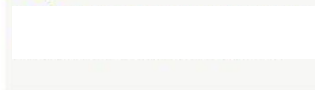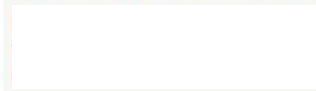
Figure 4.4: Departmental homepage with positive female representation and a dedicated section for Equality and Diversity (text blocked out).

The applications-offers-acceptances pipeline (Figure 4.3) shows that our applications-offers rate is roughly equivalent for female and male applicants, so there's no disadvantage for female applicants. The proportion of female candidates who accept

their offers increases significantly. The results of the 2019 focus group explain why female applicants are keen to accept: representation at post-offer open days, emphasis on the "cooperative study atmosphere", and equality events advertised in the offer-holder newsletter. Our part-time student intake is small (currently five PT UG students, two female).

Attainment at the top end for BSc students (1st and 2:1 degrees) does not show significant gender bias averaged over the five-year period: 81% for females and 82% for males (Figure 4.5); although male students tend to get a higher proportion of 1st class degrees. Attainment by MSci students is slightly biased towards males (Figure 4.6). This is attributable to fee status rather than gender: MSci students require a 2:1 to progress, so tend to do better. Typically only 20% of these are overseas students, but almost 70% of our female intake comprises overseas students.

UG attainment among the best students is indicated by faculty prizes. Of those awarded to mathematics students since 2014, three of four went to female students. In 2018 UCL Business Society held their first Impact Investment Championship. Three of four winning team members were female mathematics students.

Attainment by UK domiciled BAME and white maths students is comparable (Figure 4.7), with an average attainment gap of around 2.2%. Over the same period there was a 7.5% gap across UCL, and a 12.5% gap nationally. One factor may be the department's good state school representation: 80% between 2016-18; another is that assessments are anonymous and free from colonial/racial bias.

BSc attainment by gender

Year	Gender	1st	2:1	Other
2018/19	Male	30	30	20
2018/19	Female	35	38	15
2017/18	Male	31	21	12
2017/18	Female	25	23	16
2016/17	Male	43	17	11
2016/17	Female	31	23	14
2015/16	Male	25	18	8
2015/16	Female	30	26	15
2014/15	Male	28	16	5
2014/15	Female	31	24	6
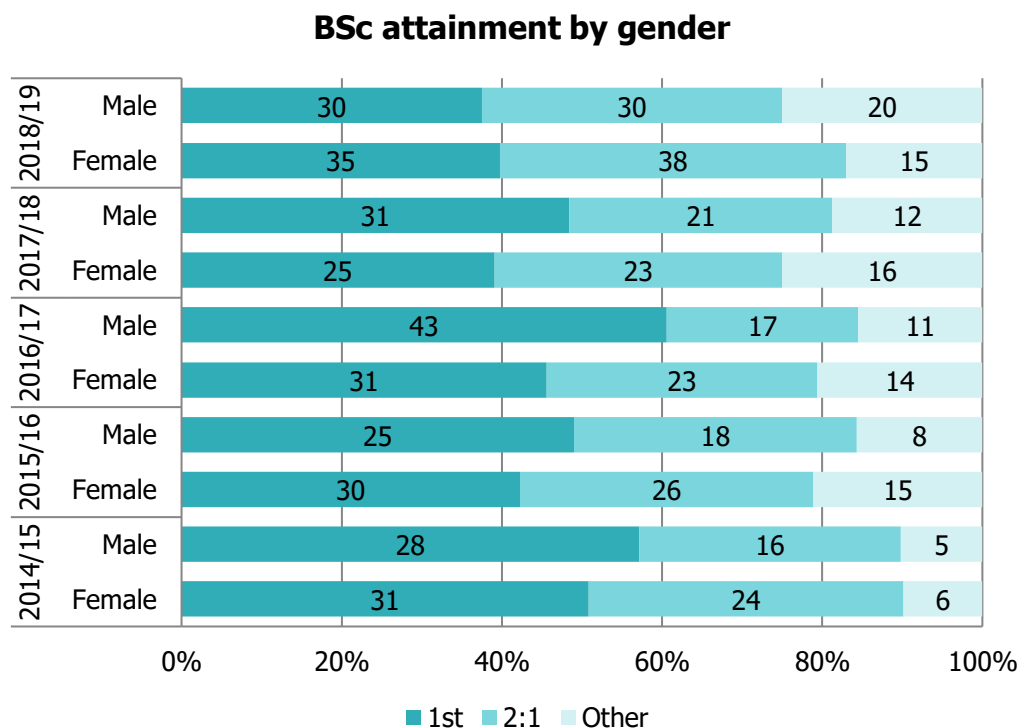
Figure 4.5: BSc degree classification disaggregated by gender from 2014-18.

MSci attainment by gender
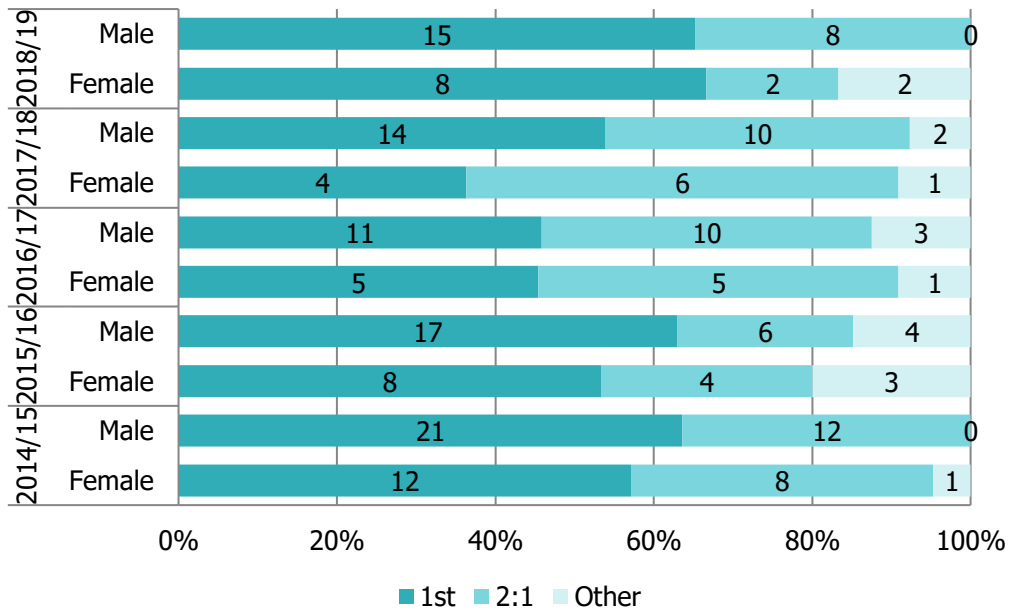
Figure 4.6: MSci degree classification disaggregated by gender 2014-18. The smaller sample size results in greater variation.

UG attainment for UK domiciled students by ethnicity
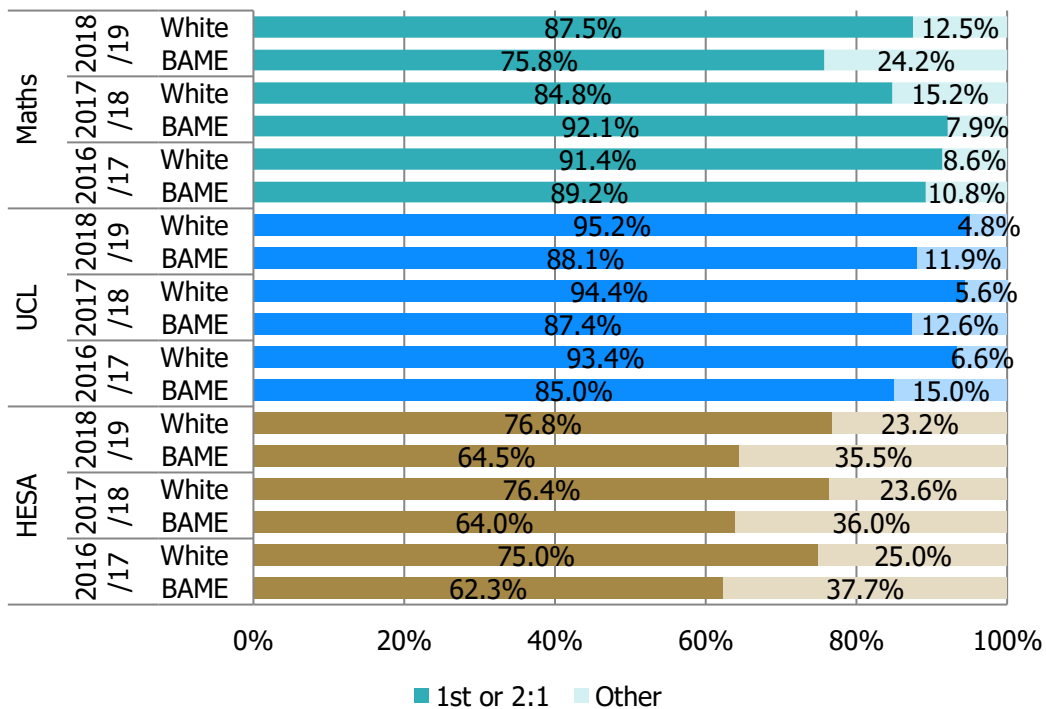
Figure 4.7: Final degree classification for UK domiciled students broken down by ethnicity. UCL and HESA (SB255 Figure 18) data are across all subjects. Only three years of data available, and the available mathematics and UCL data does not distinguish between 1st and 2:1.

Figure 4.8 shows that our proportion of female PGT students exceeds the 39% sector average (HESA 2017/18) in our MSc programmes: Mathematical Modelling and Financial Mathematics. The average proportion of PGT female students since 2015 is 48%, and the variation (good in 2015 and 2018, and bad in 2019) is consistent with random variation in a cohort this size.

Figure 4.9 shows that between 2015 and 2019, the proportion of male and female PGT students achieving each grade is the same, but males are slightly more likely not to complete their studies, although the difference (one female versus two males per cohort) is not statistically significant (Table 4.1). The number of part-time students is small (one or two each year), so trends cannot be analysed; they have all been male for the last two years.
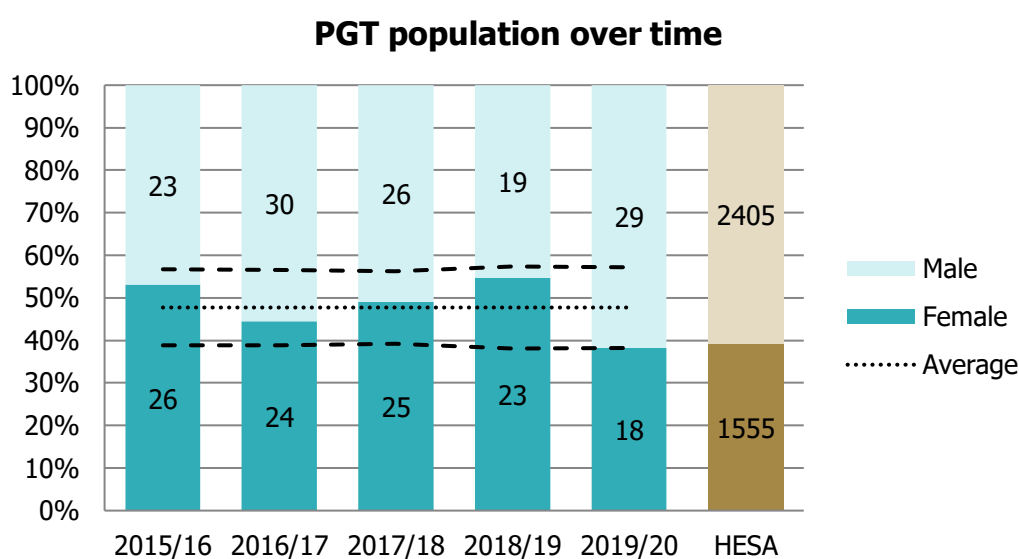
Figure 4.8: PGT population 2015-19 disaggregated by gender together with benchmark data (HESA 2017-18: DT051 Table 9). The range of natural variation indicated by dashed lines is as in Figure 4.1; significantly more variation is expected because of the smaller cohort sizes, and the fact that PGT degrees are only one year long.

Table 4.1: Number of PGT students completing their MSc disaggregated by gender. Average completion rates are 96% for female, 90% for male.

	GENDER	INTAKE	COMPLETED	COMPLETION RATE
2013/14	FEMALE	15	15	100%
	MALE	16	15	94%
2014/15	FEMALE	18	18	100%
	MALE	24	24	100%
2015/16	FEMALE	26	25	96%
	MALE	23	20	90%
2016/17	FEMALE	24	21	88%
	MALE	30	27	90%
2017/18	FEMALE	24	23	96%
	MALE	25	19	76%

PGT degree attainment by gender
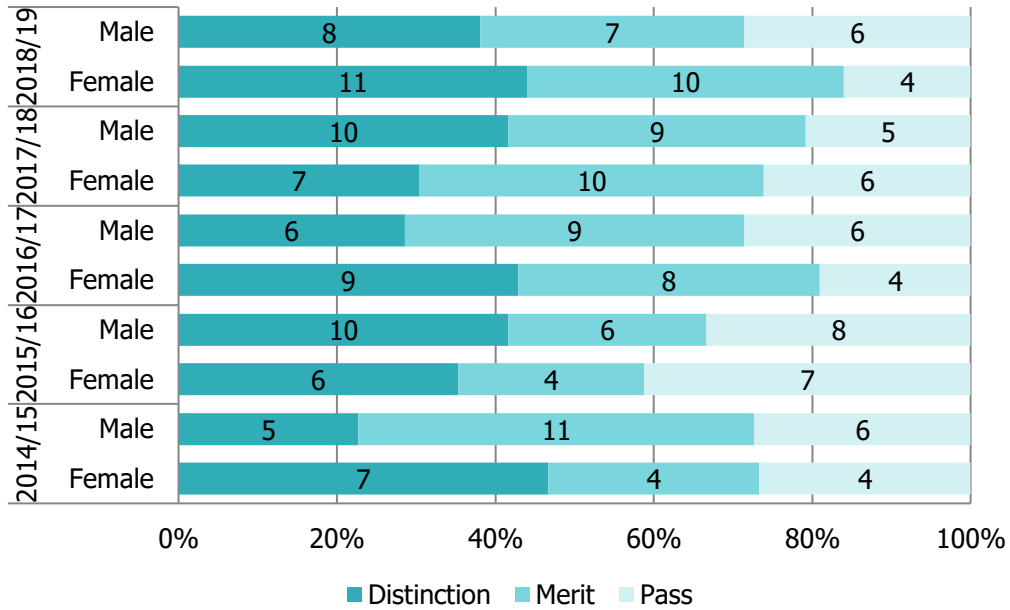
Figure 4.9: PGT degree attainment disaggregated by gender for 2014-18.

PGT recruitment 2015-19
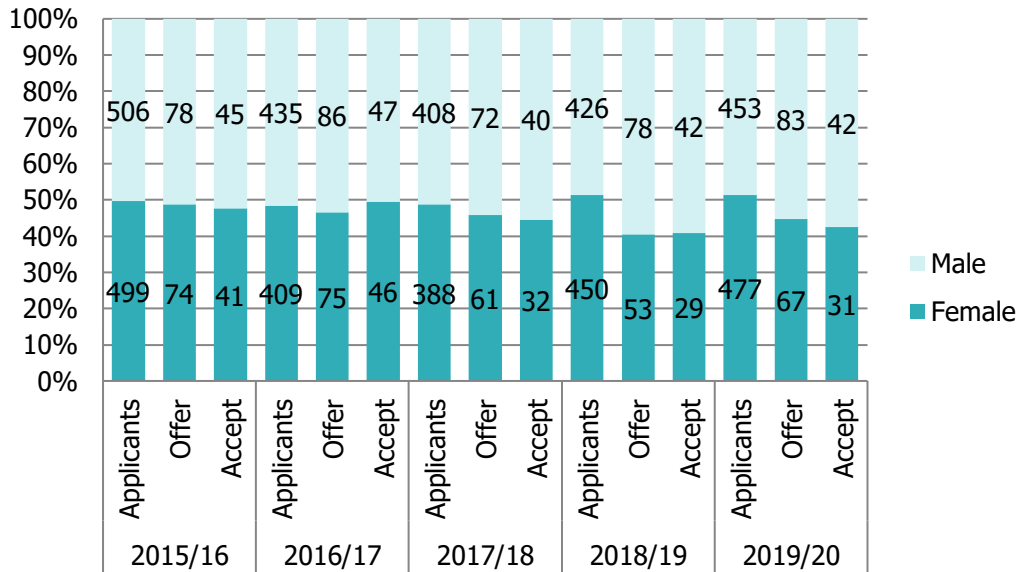
Figure 4.10: PGT recruitment pipeline for both MSc courses.

Figure 4.10 shows that from 2015-19 the proportion of female candidates tends to decrease throughout the recruitment process. In 2018 and 2019 the offer rate for women is significantly below the application rate. The admissions process is based on UG results and gender is not considered. According to the PGT tutors, a spike in female overseas applicants who didn't satisfy the entry requirements accounts for the drop in offers. This is partially corroborated by the record high proportion of female applicants. Data on why students are rejected is not collected, so we cannot verify this explanation.

> ☀ **Action 8.1 Ensure that the admissions process is fair:**
>
> Collect data on why applications are rejected starting in the next recruitment round to identify whether there is bias (Action 8.1.1), and remove information which identifies students' gender from applications before they are assessed to eliminate potential sources of unconscious bias (Action 8.1.2).

Over the last five years six out of ten PGT representatives have been female, ensuring their concerns are heard and female students feel represented.

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

The proportion of female PGR students is 24% (Figure 4.11) just below the sector average 25% (HESA 2017-18). The number of part-time PGR students is small (currently one), so we cannot analyse trends. In 2015, only 15% of our PGR students were female whereas the sector average was 26%. To redress this, an effort to convey our department's commitment to gender equality is shown in the Impact Box below. We have established a programme of well attended EDI events (see Section 5.6 (i) and (viii)). This enabled us to increase the proportion of female PGR students over the last five years, but we are committed to exceeding the national benchmark.

> ☀ **Action 2.1 Ensure the recruitment process is welcoming:**
>
> We will make all PhD interview panels gender balanced, and together with other action points (for example Action 2.3) get the proportion of female students stable at or above the national benchmark.

PGR population over time
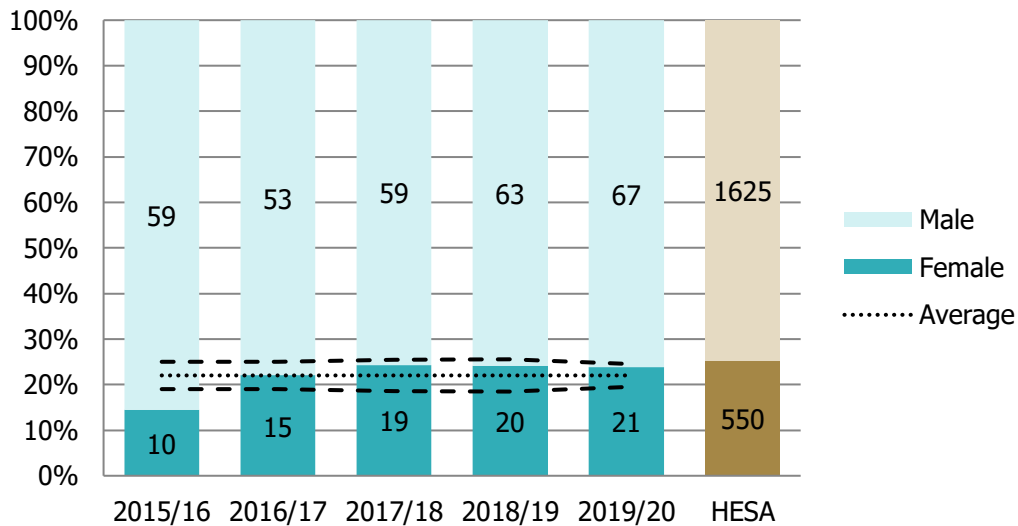
Figure 4.11: PGR population 2015-19 disaggregated by gender, together with benchmark data (HESA 2017-18: DT051 Table 9). The range of natural variation indicated by dashed lines is as in Figure 4.1.

The department funds some PGR students through a centre for doctoral training (CDT) called the London School of Geometry and Number Theory. The aim has always been to increase the proportion of female PhD students, the success of which is shown in the Impact Box below.

Applications for the CDT differ from the model operated by the department, with students admitted to a degree programme, and supervisors only chosen at the end of the first year. This eliminates sources of unconscious bias coming from the "can I work with this person for three years" step. We will investigate the viability of extending the CDT model across the department.

> **Action 2.2 Ensure recruitment process is fair:**
>
> The SAT will monitor the applications-to-offer ratio and take action if problems arise (Action 2.2.1), and we shall explore the possibility of adopting the CDT recruitment model more generally across the department (Action 2.2.2).

Impact Box

Issue Identified:
- Proportion of women declines across the PGR admissions process (2009-15*)
- Proportion of female PGR students is below national benchmark (15% vs 26% in 2015*)

Action:
- Renovate our departmental webpage and establish a social media presence (action 3.2*)
- Interview panels for PhD places at least 25% female (action 3.3*)
- Visible female role models, outreach and EDI events (see Section 5.6 (i)), and improve support for female PhD students

CDT specific:
- Dedicated webpage for "Women in Mathematics"
- Deferral scheme with Cambridge and Oxford for female MSc applicants

Impact:
- Proportion of women mostly increases throughout the admissions process (see Figure 4.12, in line with action 3.4*)
- Significant increase in the proportion of female PGR students, currently at 24%
- Proportion of CDT female PhD students increased from 14% to 50% between 2014 and 2019

*from our 2016 Athena SWAN application.

In our 2016 Athena SWAN application we identified that for 2009-15 the percentage of women declined throughout the recruitment process. To remedy this, we mandated that interview panels for PhD places should be at least 25% female. This resulted in a general increase in the proportion of female candidates at each stage (Figure 4.12).

We have identified a difference in completion rates for PGR students: 70% for female and 92% for male (Table 4.2). This corroborates the findings from the recent PGR student survey (see Section 3 (ii)). Addressing this issue forms a significant part of our action plan. We recently introduced two-day residentials for female students including social activities and talks, aimed at counteracting the common feeling of isolation.

Among other steps we will help PhD students feel more part of the department (Action 6.1.4), help students to map out their career progression both during their PhD (Action 6.1.2) and beyond (Action 6.1.3), and promote the sharing of best-practice among PhD supervisors (Action 6.1.1).

PGR recruitment 2015-2019
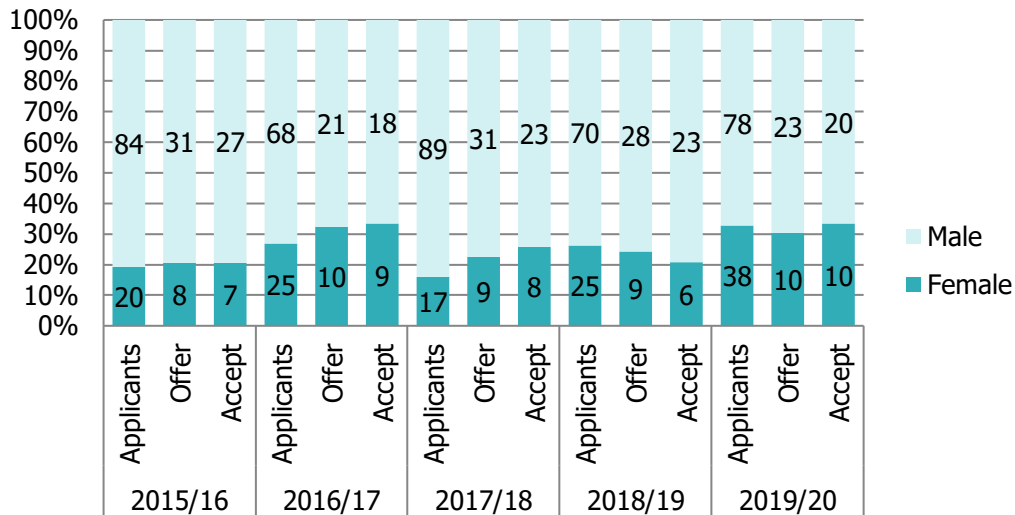
Figure 4.12: PGR recruitment pipeline for the period 2015-19.

Table 4.2: Number of PGR students completing their PhD disaggregated by gender.

	GENDER	INTAKE	NUMBER SUBMITTED	TIME TAKEN (MEAN OF THOSE SUBMITTED)
2009	FEMALE	0	0	N/A
	MALE	10	9	3 YEARS 1 MONTH
2010	FEMALE	4	2	2 YEARS 9 MONTHS
	MALE	13	13	3 YEARS 9 MONTHS
2011	FEMALE	1	1	4 YEARS 9 MONTHS
	MALE	6	6	3 YEARS 8 MONTHS
2012	FEMALE	2	2	4 YEARS 6 MONTHS
	MALE	16	13	3 YEARS 9 MONTHS
2013	FEMALE	3	2	4 YEARS 3 MONTHS
	MALE	7	7	3 YEARS 10 MONTHS

(v)   Progression pipeline between undergraduate and postgraduate student levels

At PGR level there is a disparity between men and women (Figure 4.13). Clear improvement has been made since 2010–15, but there is much progress to be made. To help close the PGR gap, we also participate in the Mary Lister McCammon Summer Research Fellowship led by Imperial College: a funded 10-week research programme for UG female finalists to work under the supervision of a leading mathematician or statistician. The aim is to encourage women to proceed to PhD level. In 2019 we funded one out of fourteen students, and this summer we funded two students.

Action 2.3 Increase the number of female applicants for PhDs:

We will continue to attract a growing number of female applicants for PGR degrees by improving the visibility of female role models in the department (Action 2.3.1), and we commit to supporting the Mary Lister McCammon Summer Research Fellowship for the next two years (Action 2.3.2). Furthermore we will track graduate outcomes by gender (Action 2.3.3).

Student pipeline avereaged over last 5 years and previous 5 years
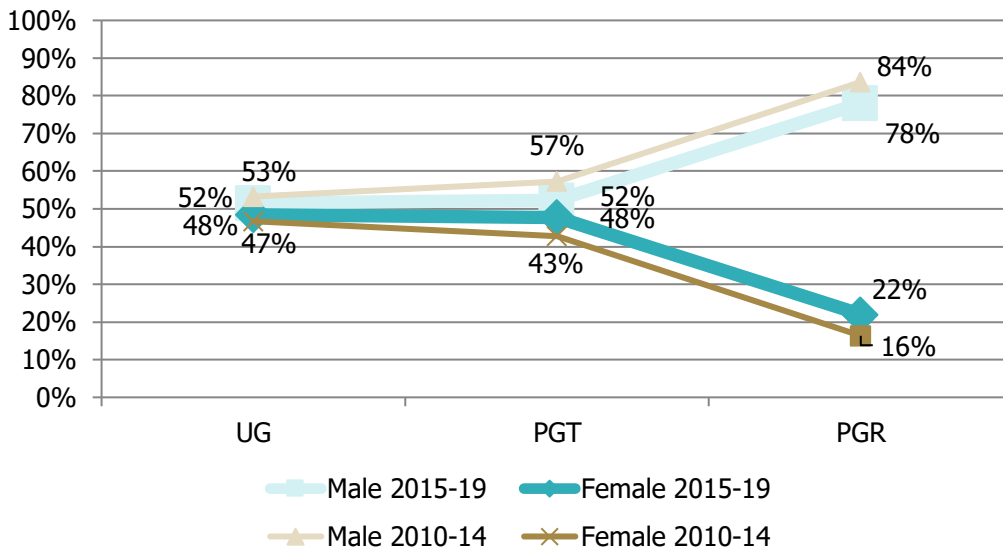
Figure 4.13: The proportion of students at UG, PGT, and PGR level who and male and female averaged over the five years since 2015-16, compared with the same data from the previous five years.

4.2.   Academic and research staff data

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

All data presented in this section uses UCL SWAN categories as follows:

SWAN Categories	
1	Research Assistant
2	Postdocs (Research Associate, Research Fellow)
3	Lecturer/ Senior Research Associates and Fellows / Teaching Fellow/ Senior Teaching Fellow
4	Senior Lecturer/ Principal Research Associates and Fellows/ Principal Teaching Fellow
5	Reader/ Associate Professor
6	Professor/ Professorial Research Associates and Fellows

Since 2014, the proportion of female academics has shown a slight upward trend (Figure 4.15), while the promotion of female academics to grade 6 has caused a drop at grade 5 (Figure 4.16). Combined with the support outlined in the impact box below, there is a marked increase in female professors, and overall a 100% retention rate for female staff. The proportion female staff overall however shows a decrease (Figure 4.14) which is attributable to a problem with recruitment of early-career researchers (Figure 4.18), see Action 3 below.

📊 **Impact Box**
Issues Identified: Low proportion of female professors (4.5% versus the sector average 8% HESA 2014/15).
Actions: • Flexible working (including accommodating lecture scheduling) • Commitment to UCLs core hours policy (10am-4pm) • Inclusive promotions processes • Research proposal mentoring
Impact: 14% of our professors are female, above the national benchmark (HESA 2017/18) is 12%.

Academic, Teaching, and Research Staff Pipeline against National Benchmark
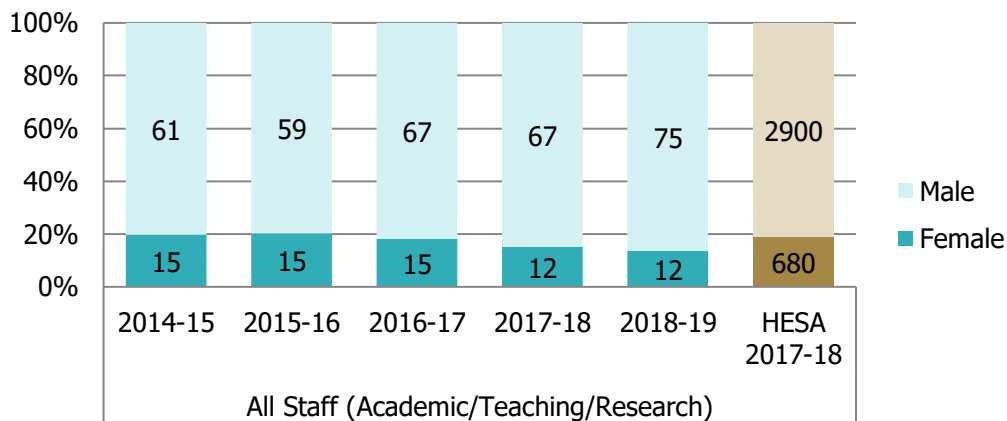
Figure 4.14 All academic, teaching, and research staff disaggregated by gender 2014-2018, compared with the national average (HESA 2017/18).

Academic Staff All Grades Pipeline
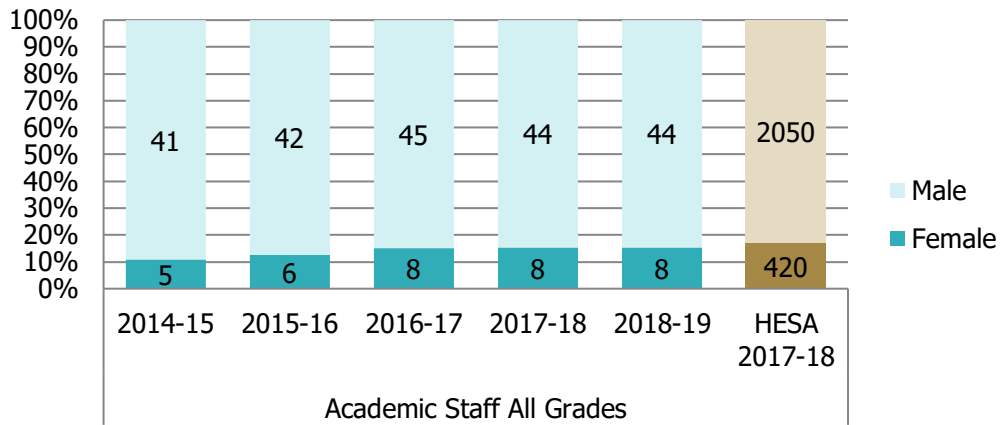
Figure 4.15 Academic staff disaggregated by gender 2014-18, compared with the national average (HESA 2017/18).

Academic Staff Pipeline 2014-18
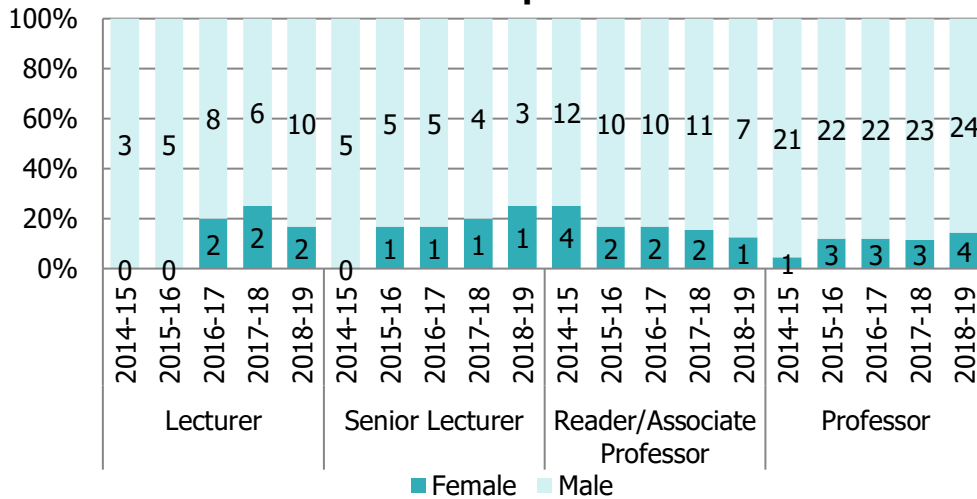
Figure 4.16 Academic staff pipeline categories 3, 4, 5, 6 2014-18, disaggregated by gender.

Teaching Staff Pipeline 2014-18
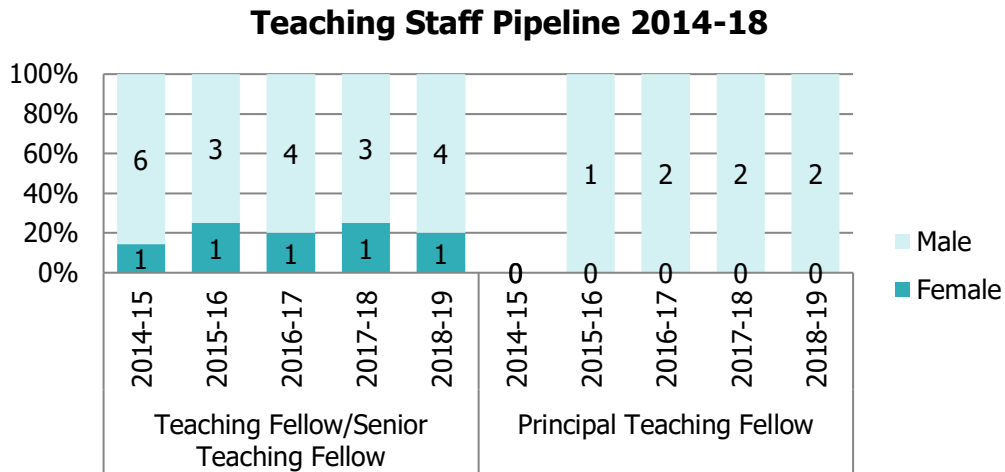
Figure 4.17 Teaching staff pipeline categories 3 and 4 2014-18, disaggregated by gender.

Research Staff Pipeline 2014-18
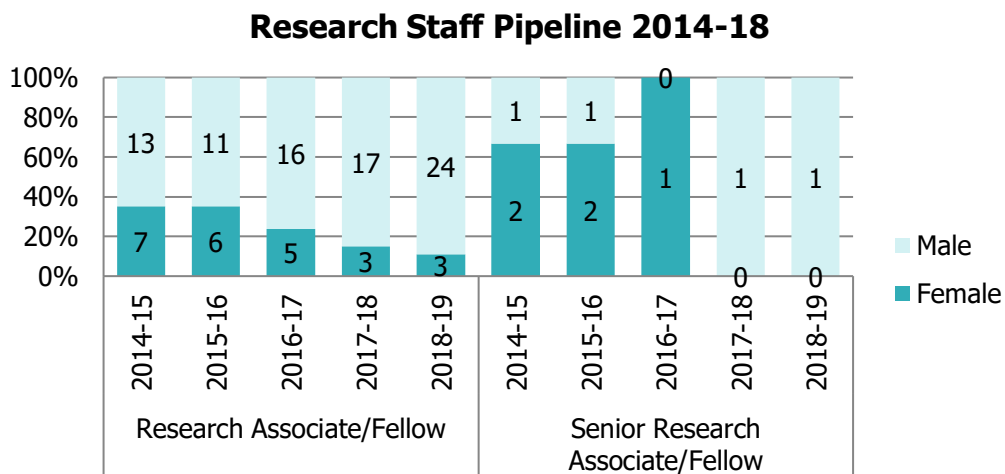
Figure 4.18 Research staff pipeline categories 2 and 3 2014-18, disaggregated by gender.

Academic pipeline 2018/19 compared to sector
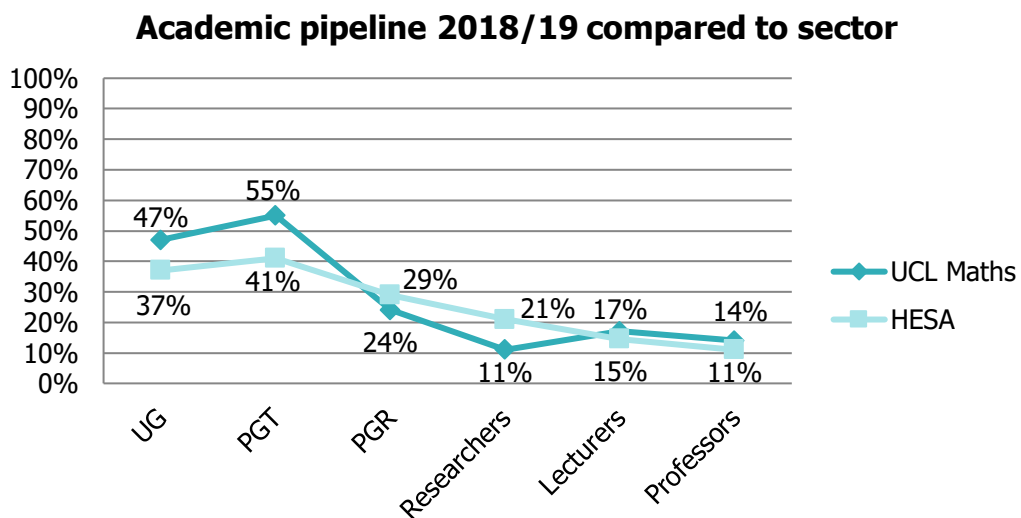
Figure 4.19 Academic pipeline for the UCL maths department 2018/19 compared with the sector average (HESA 2017/18).

Despite these successes, comparing the Academic Pipeline against the National Benchmarks shows that recruitment at early career level is an issue (Figures 4.18 and 4.19). The proportion of female postdocs shows a downward trend, 9% in 2020 well below the national benchmark of 22%. Addressing the underrepresentation at postdoc level is a significant part of our action plan.

1. **Through staff research funding**: Some grant applications have named postdocs who are automatically offered the post if funded. The decision to name someone is up to the PI writing the grant, without departmental oversight. There is a clear opportunity for bias.

Action 3.1 Ensure the recruitment process is fair:

We will consult academic staff on the abolition of this practice (Action 3.1.1). Generally, PIs have significant influence over the recruitment of postdocs once a grant is awarded. To minimise any bias in the recruitment process, we plan to train staff to become (Action 3.1.2), as well as employ (Action 3.1.3), fair recruitment specialist under UCL's Fair Recruitment initiative, creating a pool of highly-trained recruitment specialists to counteract unconscious bias.

2. **Externally-funded postdocs:** We currently host some externally-funded postdocs and we support applications based on merit. Establishing an internally-funded fellowship offers us the opportunity to address underrepresentation.
3. **EPSRC Doctoral Prizes:** EPSRC Doctoral Prizes allow EPSRC-funded PhD students to remain doing research for an extra year. Currently our PhD students choose between EPSRC awards and Teaching Assistantships at admissions limiting eligibility for doctoral prizes.

Action 3.2 Increase opportunities to recruit postdocs independently of PI grants:

We will establish an internally funded postdoc fellowship (Action 3.2.2) named after Prof Susan Brown—one of the first female professors of mathematics in the UK. The fellowship will require candidates to apply for external funding as well, which, if awarded, will enable the fellowship funding to be re-advertised. We will set up a fairer competition for EPSRC-funded PhD places to make the most EPSRC doctoral prizes (Action 3.2.3). We will also promote EPRSC Doctoral Prizes to eligible students more actively (Action 3.2.4). We will advertise regularly and openly for the opportunity to apply for external fellowships to be hosted at UCL (Action 3.2.1).

We plan to address underrepresentation of women in academic posts by making the department more attractive to applicants, ensuring the application process is not off-putting, and modifying the senior management structure so that it can be more flexible to change.

Action 4.1 Raise our profile with potential female candidates:

We commit to inviting diverse early career academic to speak at departmental seminars (Action 4.1.1), we will run regular, well-publicised diversity events (Action 4.1.2), and—with a view to gaining visibility with a different set of mathematicians from usual—organise a 'Mathematics with Charity' study group (Action 4.1.3).

> **✦ Action 4.2 Make our appointment process more female-friendly:**
>
> We will review our adverts to ensure they do not unintentionally put off female candidates (Action 4.2.1), reframe the concept and measures of research excellence in line with DORA (Action 4.2.2), and seek feedback from female candidates who decline offers and make changes accordingly (Action 4.2.3).
>
> **✦ Action 4.3 Ensure the department is open to change:**
>
> Many key strategic roles in the department have a fixed term (typically 3-5 years). The Heads of Pure and Applied Mathematics, two senior roles that drive recruitment and informally mentor new staff, are not. Establishing fixed-term tenures for these roles should promote new ideas and offer opportunities for more colleagues to take on a senior roles.

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

Several part-time teaching fellows are on fixed-term contracts, mostly due to teaching cover for academic staff with research funding. All are male, and we are not their main employer (for instance, some work in the City and lecture modules for us in Finance). All postdocs (21M/2F) and independent research fellows (2M) are on open-ended contracts with funding end date corresponding to their grant funding and working towards their first permanent academic post. All other academic, research and teaching staff (52M/10F) are on open-ended contracts with no staff on zero hours contracts.

UCL runs a redeployment scheme whereby all advertised posts are first opened to any employee facing redundancy who may be qualified. One of our current teaching fellows on an open-ended contract was recruited via this route. There is less stability for the fixed-term part-timers but we have a good recruitment story (was 2M, now 3.5M/1F).

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

All academic leavers in the period have been male; all but one full-time. Reasons are collected by exit interviews with HoD and have included: moving to institutions with higher prestige (Oxford); higher pay; location in colleague's home country; and a more family-friendly geographical location (Lancaster, PT colleague with a young child).

5.   SUPPORTING AND ADVANCING WOMEN'S CAREERS
Recommended word count: Bronze: 6000 words | Silver: 6500 words

Word count: 6509

5.1.   Key career transition points: academic staff
(i)   Recruitment

We hired 8 new lecturers/ associate professors in early 2019, of whom one is female—we used this large recruitment round to assess our processes. Offers were more likely rejected by female candidates (2F/1M). We sought feedback from each of these candidates, in two cases we were simply outbid, however one female applicant felt the application-interview process was unfriendly. As a result, we revised our interview day

programme so all candidates are taken to lunch by current staff. In our subsequent lecturer hiring rounds (2 lecturers) we have not been turned down by any applicants.

> ☀ **Action 4.2 Make our appointment process more female-friendly:**
>
> Seek feedback from *all* female applicants who turn us down (Action 4.2.3), and revise our adverts to ensure they are not unintentionally putting-off female candidates (Action 4.2.1).

Our previous actions encouraging female applicants—such as inviting female postdocs we meet at conferences to give departmental seminars—have been successful, at least anecdotally: we have shortlisted individuals who had visited due to this policy. Our proportion of female applicants matches the national average.

> ☀ **Action 4.1 Raise our profile with potential female candidates:**
>
> Run diversity-themed outreach and events using mathematics with purpose (such as working with a charity) designed to appeal to female mathematicians (Actions 4.1.2 and 4.1.3).

We do not use citation data or the H-index; however, publication lists are an important part of shortlisting and may be subject to systemic bias. After initial shortlisting we check the gender balance of the list, and if it is poor we seek out the best "near miss" female candidates to add to the list. However, no such candidates have yet been appointed. We do not use teaching evaluations (known to be biased), instead asking candidates to give a mini-lecture. We have made our adverts open to part-time and flexible work and made their language gender neutral.

After our early 2019 recruitment we compared salaries (after negotiations) to their experience. As a result, two new starters (1M/1F) had their salaries raised. This policy explicitly addresses the gender pay gap.

📊 **Impact Box**
Issue Identified: Gender Pay Gap
Action: New guidelines for new staff salaries
Impact: 2F/1M new appointees were made increased salary offers (of which 1F was appointed in Nov 2020)

> ☀ **Action 5.1 Gender pay gap:**
>
> Ensure starting salaries are equitable by allocating new starters' salaries against benchmark of other recent starters.

Academic Recruitment 2014-18
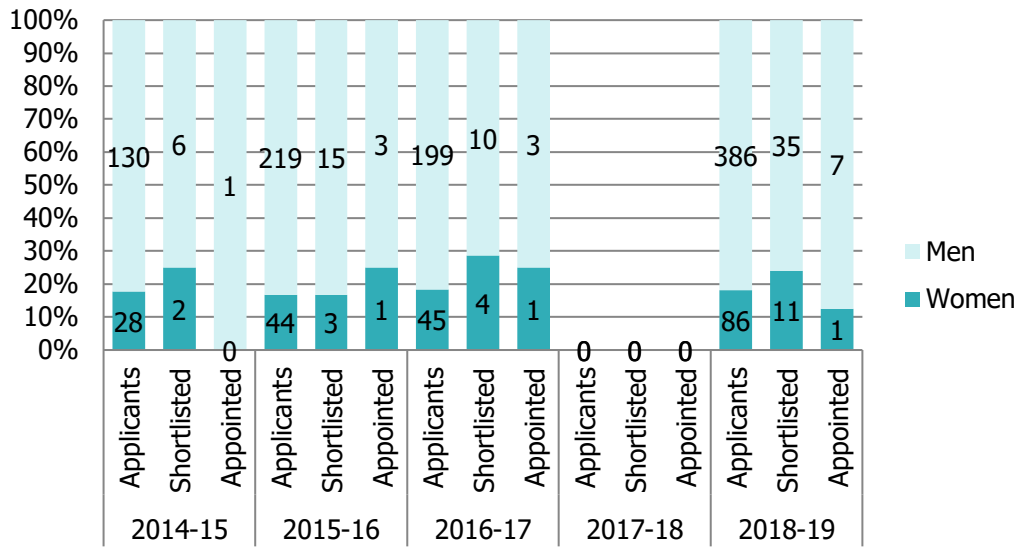
Figure 5.1 Academic staff recruitment pipeline 2014-18 disaggregated by gender.

Teaching Staff Recruitment 2014-18
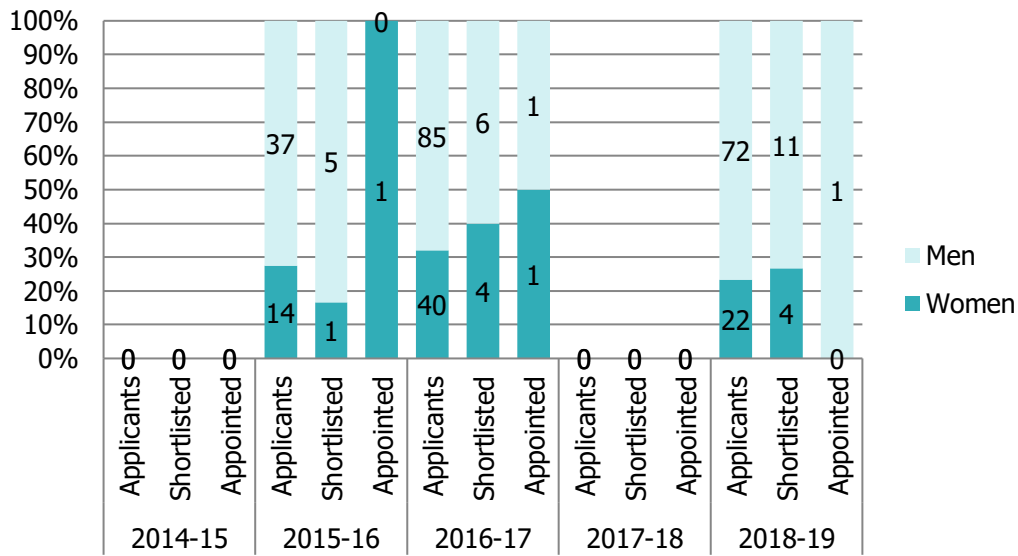
Figure 5.2 Teaching staff recruitment pipeline 2014-18 disaggregated by gender.

Postdoc Recruitment 2014-18
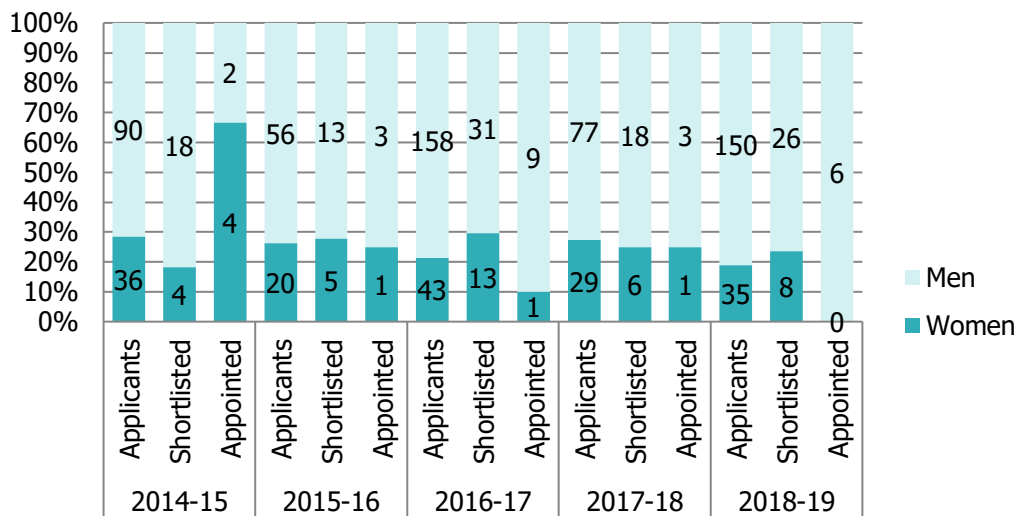
Figure 5.3 Postdoc recruitment pipeline 2014-18 disaggregated by gender.

(ii)   Induction

New academic staff are welcomed by both the DM and HoD/Line-manager and introduced to key colleagues. They are provided with a welcome pack which details such things as UCL's Work-Life Policy. The same information is also provided on the intranet. All academic staff are assigned a mentor. They are given reduced (50%) teaching loads and light (if any) administrative duties in their first year. After 1 month they meet with HoD to identify training and development needs, as well as re-iterating department policy that quality of work is valued over quantity. Mandatory training courses include: Staff Online Diversity Training, Unconscious Bias Training, Green Awareness UCL, Information Security, Safety Induction, GDPR and FOI training. They also do Introduction to Research Student Supervision and HEA Teaching Accreditation and Recruitment Training if they will be sitting on recruitment panels.

On their first day they are taken to get their ID and IT login, and shown their new office. Their IT requirements are addressed prior to their start date. New female staff are invited to introduce themselves on the Women in Mathematics webpage and contribute to the Women in Mathematics noticeboard. There is an annual department party to welcome new starters and enable them to meet colleagues and PGR students.

All UCL support networks are promoted to new starters via the intranet, welcome packs and mentors. These networks include: PACT, aiming to support staff balancing caring responsibilities with work; DEOLO, a source of equal opportunities advice with department representative Helen Higgins; and DAW. There is also the UCL *Women in STEM* network which holds regular events.

Six recent new members of academic staff (1F/5M) were surveyed about their induction, and two-thirds agreed that it gave them the core information about their role and helped them settle in. One of them commented that it is "very helpful having a mentor—an established faculty member—to ask all sorts of informal questions to".

(iii)   Promotion

In the last five years (October 2013–September 2018), 14 academic staff were promoted, see Table 5.1. Overall 29% of promotions were for women, well-above the eligible pool. There were two unsuccessful promotion cases, both men, both subsequently successful. Some Research Associates have been re-graded (1F, 6M).

Table 5.1 Academic promotion in the period Oct 2013 to Sep 2018.

Promoted To	Female	Male
Professor	2	2
Reader/Associate Professor	1	6
Senior Lecturer	0	1
Senior Teaching Fellow	0	1
Senior Research Associate	1	0
Total	**4**	**10**

Following feedback from our previous Athena SWAN application, we introduced more proactive promotion support. Initially an all-staff email from HR announces the promotion process is under way with links to procedures and promotion criteria. The HoD follows this with an all-staff email welcoming any to an informal chat about their promotion prospects. Additionally the promotions committee (2F/4M), chaired by the HoD, meet to review all eligible staff. By design they are also responsible for appraisals, and so collectively are aware deserving cases given our policy that all appraisals discuss promotions. All staff are reminded that *quality* of work is considered, and that leave, eg maternity or illness, should not disadvantage applicants.

Candidates are either invited to proceed or not, in both cases, feedback is given. We also publicise UCL promotions workshops where promotion criteria are explained along with discussion of successful cases. We encourage teaching staff to apply for a Teaching Fellowship from AdvanceHE to improve their promotion prospects. The HoD has also invited a Professorial Teaching Fellow from another department to host an advice session for all our teaching staff.

UCL has a system of four professorial pay-bands and there is an annual process to consider promotion between these bands. The HoD appraises all professors and progression within bands is discussed. The SAT does not monitor this data for gender bias since pay-bands are confidential and known only to the HoD and Dean. Professors are also eligible for an annual salary increment (typically 1-3%) for exceptional performance. Both re-banding and salary increases go before a committee of Deans on recommendation by HoD.

The department has a target of no professorial gender pay gap by 2021-22. We have therefore introduced procedures for professorial re-banding and awards to be gender blind (Athena SWAN 2016 application Action 4.1). In this Athena SWAN cycle, three female professors and eight male professors have been re-banded, of whom two female and six male since the new procedures were introduced in 2016.

The HoD reviewed the salaries of all Lecturers (in addition to the new appointees in 2019) against their CVs. This process highlighted two outliers among current staff (2M), they were both put forward for promotion and are now Associate Professors (see Impact box below). The "rule of thumb" we developed will inform salary offers for

future academic appointments. We believe this is a beacon activity and have incorporated it into our action plan under Gender Pay Gap (Action 5.1 see Section 5.1 (i)). We also want to maintain this through timely and appropriate salary increments.

> ☀ **Action 7.1 Ensure promotion processes are fair:**
>
> Run departmental training for all appraisers of academics and teaching fellows, to include discussion of the criteria for applying for extra increments (Action 7.1.3).

Table 5.2 Staff survey responses about promotions. Female staff percentages were not disclosed because there were not enough responses to ensure anonymity.

	Gender	Positive	Neutral	Negative
Promotions criteria are clear	All	60%	29%	10%
	Male	60%	31%	9%
Promotions process is fair	All	63%	29%	8%
	Male	63%	34%	3%

In the 2018 Staff Survey, two questions were related to promotions with results shown in Table 5.2. The majority of responses were positive and gender balanced, and there is little bias for neutral or negative responses.

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

In REF2014 we submitted all staff who were eligible, 40 returned to REF (4F/36M), with the exception of 2M who did not have the requisite number of publications in the period. These staff were not penalised in their careers and both remain valued members of the department (indeed, both are now research active and ready to submit to REF2021). 3F staff had output reductions following maternity leave.

In RAE2008, 34 staff (3F/31M) returned as 'Category A' (this is essentially the same category as the REF data above to allow for comparison). One male staff member was not entered for the RAE despite being eligible.

> **SILVER APPLICATIONS ONLY**
>
> **5.2. Key career transition points: professional and support staff**

(i) Induction

Before a new PSS arrives, all staff are told who they are and what their role is. On their first day they are welcomed by the DM and introduced to the HoD and PS team. They are taken to get their UCL email/login/ID and given a tour of the department and some of UCL, being introduced to key members of staff. They have a welcome pack with important information, as well as "fun" information, like the departmental newsletter, Chalkdust Magazine (see 5.6) and a book: *The History of Women In Mathematics* by Patricia Rothman. The induction packs are well received by PSS, they report finding this extra information very interesting. Induction information is also on the intranet.

Four recent new PSS (3F/1M) were surveyed about their induction, and they all felt welcomed to the department and thought it helped them settle into their role. They

commented that they particularly appreciated being personally taken to get their ID and given a tour of the department.

Induction is mandatory, and HR policies are reviewed regularly. The dept induction packs are updated annually, most recently in Sept 2020 to reflect the new online working environment (see Section 7). The UCL induction checklist is used at LM/PSS meetings to ensure all starter processes are covered. Effectiveness of the induction process is assessed informally in discussion with LM/PSS/SSO.

Mandatory training courses include: Staff Online Diversity Training, Unconscious Bias Training, Green Awareness, Information Security, UCL/Dept Safety Induction, GDPR and FOI. Training for PSS who have specific roles, such as in recruitment/ T&L/ finance, is arranged. The first probation meeting is after one month, and this is used to ensure that training is on track.

They have a first week meeting with their manager to make sure they are settling in, and probation is explained. The department views induction as an ongoing process and regular informal reviews are conducted between probation meetings and once probation is completed.

(ii)   Promotion

Most staff are grade 7-8 which reflects the department's commitment to pay PSS fairly. We have strived to maintain gender balance, and the average in the last five years is 58% female (see Figure 5.4). The proportion of BAME staff is increasing (Figure 5.5). Part-time staff numbers are small so it is hard to draw any conclusions but no bias is evident from the data (Table 5.3).
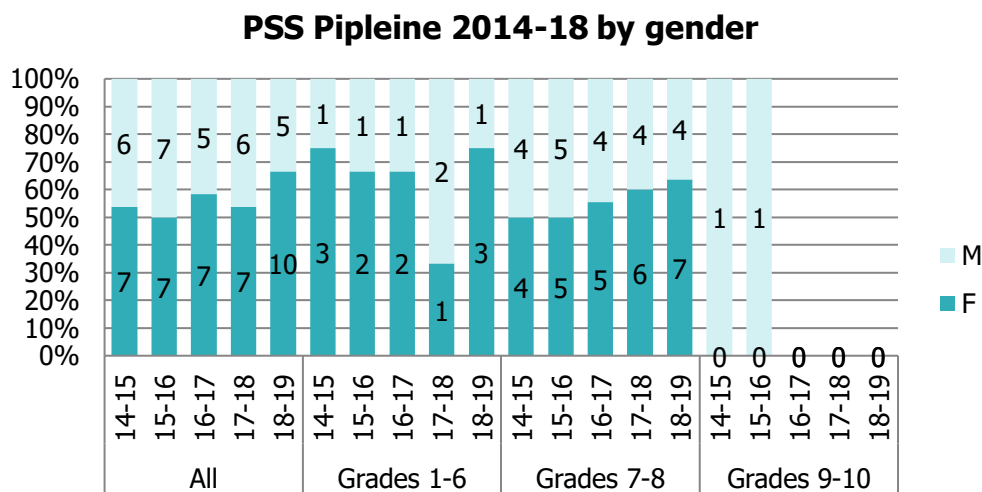
Figure 5.4 The proportion of female PPS staff across grades 1-10 for 2014-18.

PSS staff 2014-18 by ethnicity
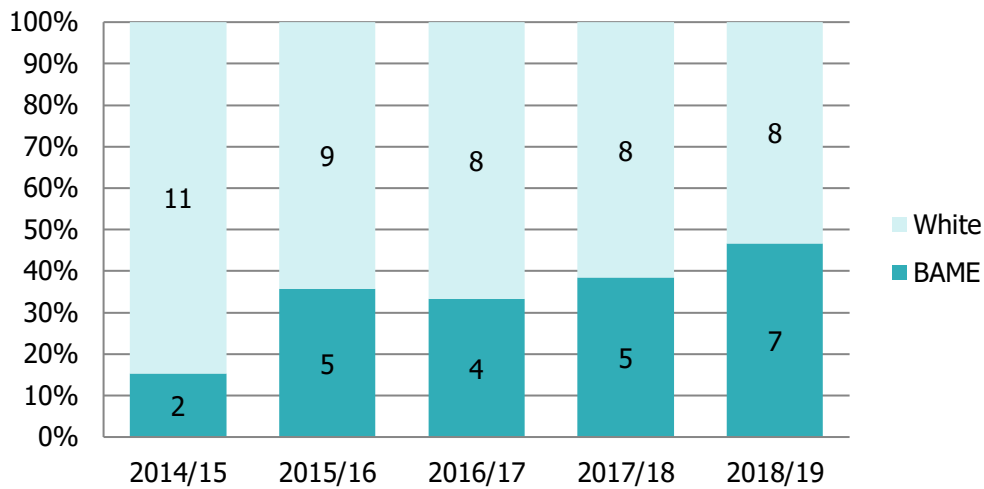
Figure 5.5 The proportion of PSS who are BAME from 2014-18.

Table 5.3 Part-time Professional Services staff profile.

	Grade	Female	Male
2018-19	1-6	1	0
	7-8	2	0
2017-18	1-6	0	1
	7-8	1	0
2016-17	1-6	0	1
	7-8	1	0
2015-16	1-6	1	0
	7-8	0	0
2014-15	1-6	1	0
	7-8	0	0

There is no formal promotion framework within PS at UCL. UCL established TOPS programme in 2016 to enhance careers for PSS. There are three mechanisms allowing staff to move up to a higher grade:

- **External secondments:** Mathematics PSS are encouraged to apply for secondments within UCL to gain experience. We are committed to supporting and enabling the long-term career goals of PSS. They are able to move up grades, usually by moving roles. Secondments help facilitate this. The DM emails all opportunities all PSS.
- **Internal secondments:** The Deputy DM/Finance Officer had a 12-month career break. A female T&L PSS (Grade 6) interested is increasing their finance knowledge and experience, was seconded into the role (Grade 7). This led to a further secondment to a finance role in another department, and subsequent appointment to a permanent finance role (Grade 7). They are now training to be an accountant (supported by UCL) due in part to the experience that they gained in these two secondments.

- **Moving roles within the team:** We encourage movement within the Department. Our team includes a female staff member who transitioned from Administrator (Grade 6) to Senior Staffing Officer (Grade 7), and a male staff member who transitioned from Administrator to a T&L role at the same grade, which more closely matches his career goals. We also have a female staff member who was recruited from a temporary role to a permanent role (both Grade 6), with the encouragement and support of senior PSS. DM discusses ambitions and career plans with PSS at appraisal, and facilitates secondments/ additional training, including providing additional funding.

Staff are considered for additional increments at annual appraisal by LMs and the DM. Four PSS (2F/2M) have been awarded additional increments in the last three years. Staff appreciate the efforts made by the DM to facilitate PSS individual needs and ambitions and the DM has gone *above and beyond* for some. Faculty and HR support in helping to make realise opportunities for staff is appreciated by the DM.

5.3. Career development: academic staff
(i) Training

UCL requires staff to attend a minimum of 3 training/development events per year. Training needs of academic staff are identified at induction, probation and appraisal meetings. The HoD regularly emails UCL and departmental training opportunities to staff. The importance of training beyond official courses is recognised: e.g. seminars and conferences are research development events.

We have seen consistent improvement in the uptake of professional development training among academic staff, both male and female (see Figure 5.6). From 2018-19 over 70% undertook some form of training, and while the rate is slightly higher among female staff, there is not too much difference.

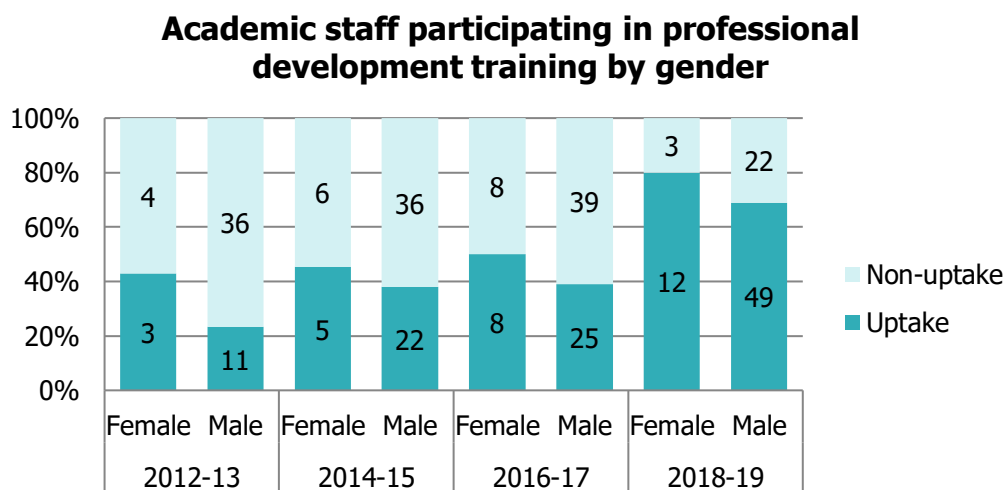**Academic staff participating in professional development training by gender**

Figure 5.6 The proportion of male and female academic staff who undertook some form of professional development training since 2012. Note that each column shows data pooled over two years.

(ii)   Appraisal/development review

UCL has an annual appraisal scheme, which applies to all academic staff once they have completed probation. Staff submit a document covering their progress in various different areas, Professors do this online. Postdocs are appraised by their PIs; independent research fellows are appraised by someone close to their research area; probationary lecturers are appraised by the HoD.

All appraisers are supposed to attend training on developmental review and objective setting before they start doing appraisals. However, this training has not always been available. As of November 2019, eight academic staff (including current and former HoD and all members of the 2018/19 Promotion Committee) had undertaken the training, and the training had not run for about 6 months and was still not available. This inevitably means that several postdocs are appraised by untrained staff.

> **Action 7.1 Ensure promotion processes are fair:**
>
> Ensure all PI appraisal-trained as soon as training becomes available (Action 7.1.1). We shall relieve the HoD appraisal overload by introducing a structures appraisals tree (Action 7.1.2).

UCL's benchmark is that 95% of staff should have their appraisal within 18 months of the previous one; as a department we consistently exceed this target (100% in a snapshot taken on 6 November 2019.

Table 5.4 Staff survey responses about appraisals 2018 and 2019.

	Year	Gender	Positive	Neutral	Negative
Are you satisfied with your most recent appraisal	2018	Female	50%	40%	10%
		Male	78%	14%	8%
	2019	Female	75%	25%	0%
		Male	55%	34%	11%

In 2018 our routine analysis of the UCL Survey identified that female academics were significantly less satisfied than males with their most recent appraisal (Table 5.4). In 2019 we ran a streamlined survey focusing on the questions that highlighted gender discrepancy. The perception of appraisals inverted, though there had been no change in the appraisal process. Because satisfaction was low in both surveys, we have proposed actions to improve appraisals.

(iii)   Support given to academic staff for career progression

Academic staff are invited annually by the HoD to apply for sabbaticals, requesting a term's unbroken focus on research which can drive the breakthroughs needed for the next promotion. The regular, formal application process means all applications can be considered fairly against one another. We typically approve 1-2 applications each year (along with all sabbaticals post maternity/parental leave).

For postdocs, one of our senior academics ran a pilot scheme of mock interviews for academic positions. The idea was to reproduce a typical interview environment at a UK university or research council. "Candidates" submitted a written application and gave a short presentation followed by an interview with a panel of staff members. At the end

of the interview, the panel discussed strengths and weaknesses and gave constructive feedback. It was clear from the pilot that this initiative was well-received; we will expand its capacity, assigning another member of staff to run the logistics (advertising the scheme to the postdocs, setting up dates, recruiting the panel).

The insight gained by sitting on such a panel is very valuable: we will also start a similar scheme for PhD students applying for postdoctoral posts, with our postdocs invited to participate on the panels.

☀	**Action 4.4 Support our postdocs seeking academic posts elsewhere**

Roll out mock panels for postdocs applying for fellowships and academic posts (Action 4.4.1).

☀	**Action 6.1 Improve support for PhD students**

Set up mock panels for PhD students applying for postdocs; invite postdocs to carry out interviews (Action 6.1.5).

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

In addition to Action 2.3 (see Section 4.2 (v)), the department offers a Summer research project to UG students. We had departmental scholarships (2 per year) and now we contribute to the LMS UG Research bursaries in return for up to 4 nominations a year. In our last action plan, we aimed to ensure that women were represented in the programme. Between 2016-17 and 2019-20, (13F/16M) UG students had funded Summer scholarships with 1F and 1M now in our PhD student body.

'I had the opportunity to undertake a funded summer research project[…]The opportunity was invaluable to my future career progression as it gave me a brief insight into how mathematical research is carried out at a professional level and solidified my desire to progress to a PhD. The funding meant that I could focus on the research project without worrying about having an additional job. I think the project was also a nice addition on my CV as it was mentioned favourably in my interviews for an MSc and PhD.' (UG student)

The 2017 PhD survey revealed students wanted training on topics like managing research-project progression and time, navigating the student-supervisor relationship, and building a professional profile. One academic designed a two-hour pilot session on in February 2018 for first-year students. Following positive feedback it ran again in 2019 and 79% of participant found it (very) helpful. We are extending the scheme to post-upgrade students, with input from fourth-year students.

In May 2018 our Postdocs ran a panel session for PhD students discussing their experience applying for, and being, a Postdoc. Feedback was positive, but the Postdocs observed female students were reticent to ask questions. When it ran in April 2019 (again to positive feedback) there was a networking reception following the panel for one-to-one discussion. Female students' reticence remained an issue, so in future when

sessions run, students will be asked to formulate questions in small groups rather than a hands-up approach, to encourage more women to be heard.

The department's CDT runs mandatory mock academic and industrial interviews annually for final-year students which are always highly valued. We will extend the mock interview scheme to all PhD students, and Postdocs will be invited to participate on the panels, which we think will be at least as useful for the Postdocs as their own mock interviews (Action 3.3).

(v)   Support offered to those applying for research grant applications

The department has a compulsory grant proposals reviews process run by Prof Halburd who sends out the applications to colleagues in the relevant research areas for feedback. The Departmental Manager gives feedback on finances. Early career academics have mentors to help with grant proposals.

There is comprehensive guidance on the departmental staff intranet on how to apply for a grant including costing, risk assessment, grant travel costing and additional guidance for LMS research grants.

Academics get UCL support for fellowships and large grant proposals, including mock interviews.

This has had a disproportionate impact on the success rate of female staff (holding steady at 62-63% at a time when overall success was decreasing, see Figure 5.7) with the average grant amount awarded at £166K for female and £139K for male staff, defying national trend.
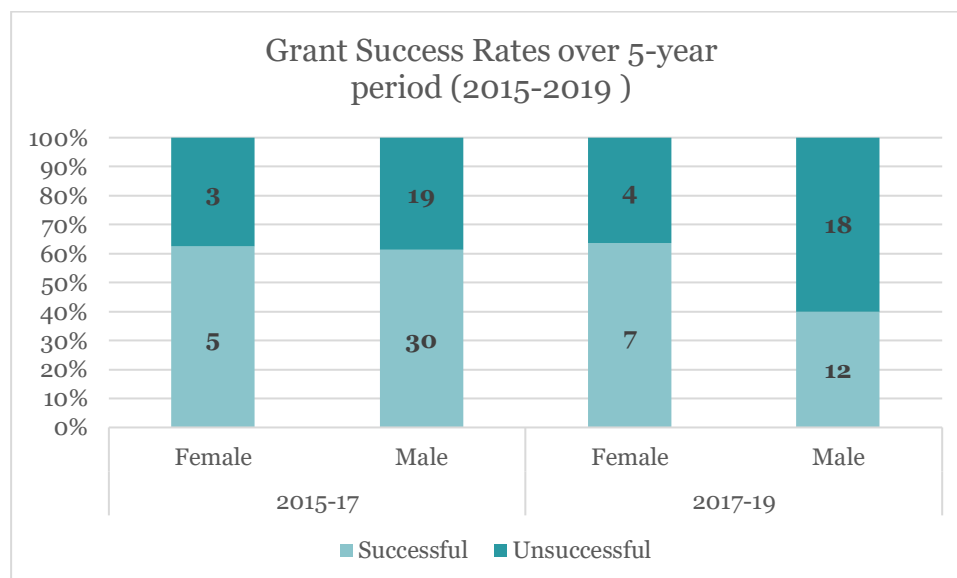
Figure 5.7: Grant applications and successes across 2 two-year snapshots. Total success rates are 62% F: 57% M.

We also have an Externally Funded Fellowship scheme. This includes support in writing your full grant application, an internal evaluation of the grant proposal with feedback

and checking various council specific requirements. Successful candidates are assigned an academic mentor for the duration of their fellowship.

Impact Box
Issue Identified: Grant Gender Gap
Actions: Comprehensive grant proposal review process (from previous Athena cycle but impact seen now)

Impacts:
 	
Grant success rate for female staff holding steady against falling overall success rates:
 	
      2015-17 62%F: 61%M
 	
      2017-19 63%F: 40%M

SILVER APPLICATIONS ONLY

5.4.   Career development: professional and support staff

(i)   Training

Professional development training is a key mechanism for advancing the careers of PSS. Training needs are identified at induction/probation/appraisal. The departments' open-door policy lends well to regular informal discussions on training. The DM disseminates training opportunities and encourages PSS to pursue relevant training. Regular central communications are sent to all staff for ISD training. Effectiveness of training is monitored by the appraisal process. UCL requires staff to attend a minimum of 3 training/development events per year.   Figure 5.8 shows that there has been a consistent increase in engagement with training for both men and women. We notice that female PSS tend to engage more with training. We aspire to go further, and formalise the training options of PSS.

Action 7.1 Ensure promotion processes are fair:

Provide training course options to PS staff at appraisal (Action 7.1.4).

PS staff participating in professional development training by gender
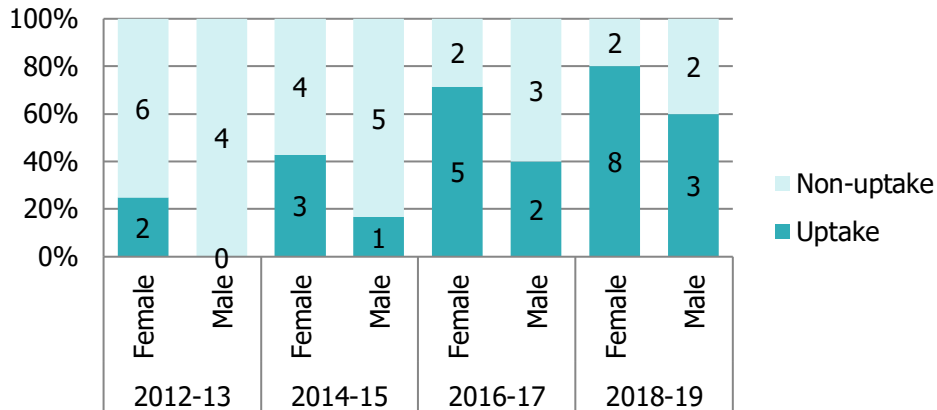
Figure 5.8 The proportion of male and female academic staff who undertook some form of professional development training since 2012. Note that each column shows data pooled over two years.

(ii)   Appraisal/development review

UCL appraisals became annual in 2019 with a transitional period of 12 months. appraisals are mandatory and comprise completing a form and then attending a meeting with LMs. The meeting is collaborative and provides a useful space for enhanced discussion about the appraisee's role. Salary increments are applied for if performance meets the criteria. During the pandemic, a lighter-touch form has been created by UCL to help staff complete their appraisal without being overwhelmed by the switch to online working. Pre-pandemic, only 1F out of 15 PSS had an overdue (ie >12 month gap) appraisal, compared to 9 (2F/7M) academic staff out of 83 appraisal eligible staff.

In a survey of six PS staff (5F/1M), 60% of respondents said their recent appraisals discussed work-life balance, promotions, and overall were helpful for professional development (see Figure 5.9). They commented that "specific advice was given on how to work towards a promotion that proved very helpful" and that they appreciated training and other opportunities for personal development being discussed.

PS staff feedback on their appraisals
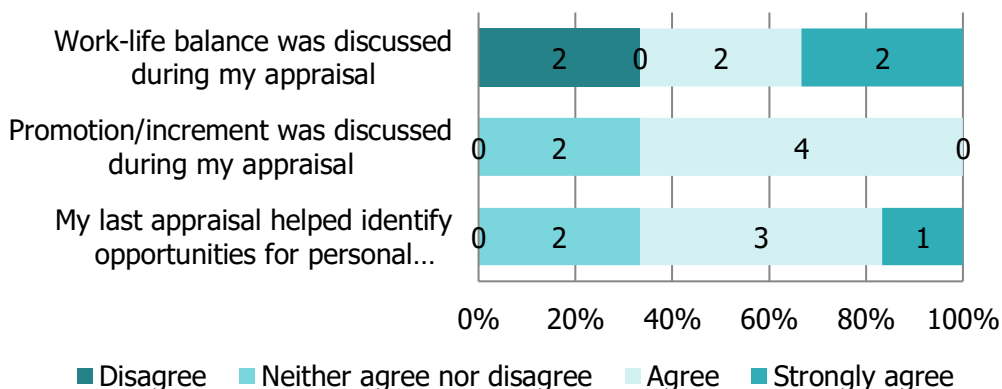
Figure 5.9 Feedback on recent PS staff appraisals.

(iii)   Support given to professional and support staff for career progression

Impact Box
Issue Identified: Lack of career progression in PSS
Actions: • Training discussed routinely at appraisals   • Effective promotion of training opportunities   • Fostering a culture where training is seen as beneficial   • Financial support for external training
Impacts: Visible impact on PSS careers – regrading (1F), increments (2F/2M), moving roles within PS team (2F/1M with the 2F at higher grade)

The department values its PSS very highly and is proud to provide bespoke career development support to them. Some recent examples of this follow:

- The DM was funded on a two-week AUA study tour to the USA. This tour included visiting HEIs to seek out best practice and report back.
- The SSO has received dept funding to study the CIPD (Chartered Institute of Personnel Development) Diploma, a post graduate qualification in Human Resources.
- The DDM was nominated by the HoD for a UCL Women in Leadership programme in 2020. This continued in Lockdown and led to a further opportunity for the DDM to a 6-session 'Lead From Power' coaching programme.
- During the pandemic, with the department has had to deal with a huge number of first year students, the DM encouraged a Senior T&L PSS(F) to apply for a 0.5 FTE secondment that would enhance her pastoral role and future ambitions. UCL support will go towards initial qualification and Department support for further qualifications have been discussed.
- This secondment has created an opportunity for a Grade 6 (M) colleague to act-up at Grade 7 for 3 months.
- At the start of lockdown our Systems Administrator embarked on a Linux qualification (RHCSA) which will be financially supported by the department.

5.5.   Flexible working and managing career breaks
(i)   Cover and support for maternity and adoption leave: before leave

All staff are informed of maternity leave processes, and time-off for hospital appointments, and this information is available online. They are offered home- and flexible-working options. Risk assessments throughout pregnancy are performed, and required adjustments made. One PSS member was able to work from home when the number of stairs to their office became an issue. This also happened with a PhD student

who went on maternity leave, and their grant was extended to give them the same timeframe for research.

"I was able to attend two maternity workshops via UCL PACT before I went on maternity leave[…]It enabled me to network with other mums-to-be at UCL across a very wide section of our work community. As I was the only one in my department who was pregnant at the time, this was very valuable to me in terms of additional support that I had access to. One[…]did a podcast on lockdown and maternity leave and its challenges, which was very insightful as a new mum." (PPS)

(ii)   Cover and support for maternity and adoption leave: during leave

For both academic maternity leaves in the period, UCL funded someone to cover their teaching. All PSS maternity leaves are covered with fixed-term posts or secondments.

Staff are encouraged to use "keep in touch" days if they wish to. This is a personal decision and flexibility is important; discussion with the LM finds the balance between too little contact (leaving them feeling isolated and uninformed), and too much stress and undue pressure to return. Academics who run a research group often use these to discuss research, but formal line management duties are covered by other staff.

"Whilst on maternity leave, I was invited to two team social events.[…]This helped me touch base with the team and helped my integration after returning from maternity as I was introduced to new members and updated on developments." (PPS)

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

The department has a specific fridge to store breast milk should returning staff wish to express.

UCL has a nursery on campus, and a childcare voucher scheme. The Staff Survey results show an increase in awareness of UCL benefits (Table 5.5).

Table 5.5 Staff survey results relating to benefits like Pension, childcare vouchers, and the employee assistance scheme.

	Year	Gender	Positive	Neutral	Negative
"I am aware of UCL's range of benefits for its staff"	2018	Female	100%	0%	0%
		Male	76%	16%	8%
	2019	Female	75%	25%	0%
		Male	80%	11%	9%

Academic staff receive a one-term sabbatical from teaching in accordance with UCL policy, augmented to be administration-free by the department. This does not increase the burden on colleagues, we have enough staff to cover duties equitably with advance planning.

(iv)   Maternity return rate

Academic
Both female academics who took maternity leave since 2014-15 have returned, one was promoted to Professor during her maternity leave.

PSS
One part-time PSS took 12 months' maternity leave, returning during lockdown, directly into remote working.

"Not having to commute was a positive. Working from home has meant that I am able to continue in breastfeeding my son, which has been a real bonus for me." (PSS)

> **SILVER APPLICATIONS ONLY**
> Provide data and comment on the proportion of staff remaining
> in post six, 12 and 18 months after return from maternity leave.

All academic and PSS staff who have gone on maternity leave since 2014-15 returned and are still with us.

(v)   Paternity, shared parental, adoption, and parental leave uptake

Academic
Over the last 5 years 100% of those eligible (11 instances) for such leave have taken it. Staff are encouraged to take the full leave available, and use it flexibly.
In 2019 a new colleague would not have been eligible for shared parental leave; the department advocated for him and he took 12 weeks' paid leave, rather than the statutory 2, avoiding being penalised for moving institutions.

PSS
There have been no requests for such leave in PS since 2014-15.

(vi)   Flexible working

Academic Staff
Our firm belief is that flexible working is essential in order for staff to flourish, so the default response to flexible working requests is *"yes",* after considering constraints outside of the department's control like scheduling large class lectures. There are no gender or grade disparities for those working flexibly. Working from home is common, with many academics doing so 1-2 days per week. More generally, all staff are able to, and do, work flexibly in order to meet personal commitments. Working from home days are advertised to students and there is no contradiction between flexible working practices and students being able to contact/meet staff.

PSS
In November 2018, we suggested a flexible working policy for PSS: full-time staff choose flexible start times between 8:30 and 9:30. After a consultation period, this policy was introduced in June 2019 and has proved very popular, with several staff members saying it is "*useful*" and "*makes it seem like my workplace cares about me*" (*T&L Administrator)*. In addition, we have two part-time members of staff, both of whom have flexible working to allow for parental responsibilities; they can adjust their hours accordingly/work from home on occasion.

Presently no academic or professional services roles are 'job-shared' but the department will consider the practicalities and processes required to make such an appointment. We have added on all job application documents that "we consider part-

time, job-share and flexible working arrangements". Recent staff surveys show the department's success communicating its flexible working policy (Table 5.6).

Table 5.6 Staff survey results relating to staff perception of the departments attitude to flexible working.

	Year	Gender	Positive	Neutral	Negative
"As long as I get the job done, I have the freedom to work in a way that suits me"	2018	Female	80%	10%	10%
		Male	97%	3%	0%
	2019	Female	83%	0%	17%
		Male	98%	0%	2%

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

One academic requested, and was granted, part-time hours after the birth of their child, and found this tremendously helpful:

"When my son was born, the department was incredibly supportive of my request of going down to part-time (0.8), reassuring me that it would be possible to go back up to full-time if and when I wanted to, and helped to make sure my responsibilities were reduced proportionally (so that I wasn't doing five days' work in four days). Generous paternity leave, and the fact that meetings and seminars were scheduled for core hours also made it much easier to achieve a sensible work-life balance as a new parent."

He has since left the department, wishing to raise his child outside of London, however emphasised how supported he felt. *"My decision to leave UCL was taken with a heavy heart, because the department had been so good to me in so many ways like this. The move was really only to relocate to the countryside, closer to family."*

No PS staff requested reduced hours in the period.

5.6. Organisation and culture
(i)   Culture

"I started an internship [at a different institution] today, and it's made me realise what high standards our department has for gender equality! [...] I have already noticed (and been subjected to) mansplaining, patronising language, being talked over in meetings, sexist "banter"...Not sharing with you in order to criticise [institution] but rather to celebrate how much comparatively better our culture is at UCL!" (Female PhD student)

The department is proud of its history. We believe that Emeritus Professor Susan Brown, appointed to a Chair at UCL in 1987, was the second female professor of mathematics in the UK mathematics department. The department's premier UG prize in Applied Mathematics was re-named the *Susan Brown Prize* in 2015. In the early 1990s, over a decade before the Athena SWAN Charter, the department initiated an annual Women in Mathematics Day, still going strong today.

We continually work to formally structure EDI into the department's strategy and operations (Objective 1.3). Some staff members (eg Luciano Rila, Helen Higgins) have commitments written into their job descriptions. EDI is a permanent item in departmental meetings. The SAT includes several members of the senior management

team, and shares members with all other key departmental committees (see Section 5.6 (iii)), ensuring Athena SWAN issues are addressed at the highest level.

In recent years we have organised a series of well-publicised EDI events and we plan to continue to hold at least three such events each year (Action 4.1.2). Examples include:
- In March 2019, the department launched "Susan Brown Day", an celebration of International Women's Day. We had 5 speakers featured in Figure 5.10. Around 40 people attended the event.
- In Oct 2019 we marked Ada Lovelace Day by organising a `wikithon' to write Wikipedia pages of mathematicians from under-represented groups. We have subsequently teamed up with three other UCL departments to organise regular lunchtime wikithons.
- In March 2019 we organised an LGBTQ+ themed event around the history of gaysocs. Luciano Rila's talk at this event has been selected as part of UCL Lunch Hour Lectures.
- In March 2020, the UG speaker on the Susan Brown Day was inspired to organise a student-led event celebrating LGBTQ+ in Maths. Following a similar format, an informal reception followed five short talks. The student contacted the Athena SWAN co-chair requesting support, and the department both offered financial support, and advertised the event through the departmental Twitter account. Around 25 people attended UG/PGR students, PGRAs, academic and PS staff (see Figures 5.11 and 5.12).

We view our LGBTQ+ inclusivity work as essentially intertwined with our gender equality work; it creates an inclusive environment that benefits women in a male-dominated field, and also creates a safe environment for trans women. Our HoD and DM are among those who overtly support the OUT@UCL network (Figure 5.12).

"I really enjoyed participating in the women in mathematics event to celebrate international women's day as it gave myself and others a platform to talk about and celebrate women who have inspired us. The fact that it was organised demonstrated that the department was taking on a role to promote women in mathematics which was both encouraging and inspiring to see. (Female UG speaker on Susan Brown Day)

📊 **Impact Box**
Issue Identified: Unrepresented groups in STEM (ethnicity, gender, sexuality).
Action: Promoting and organising EDI events, public and departmental.
Impact: Inspired students to organise their own EDI event (with departmental support) about LGBTQ+ representation in maths.

Figure 5.10: Speakers representing all sections of the department on our Susan Brown Day 2019 reception. Left to right: PSS SAT member, HoD, PDRA former SAT member, UG, and PGR SAT member.

Figure 5.11: Speakers and organisers at the reception of LGBTQ+ in Maths evening 2020 including UG/PGR students and staff.

Figure 5.12: The office doors of the HoD and DM on the main corridor between the department office and staff-room.

NSS survey: The department has seen consistent improvement in overall student satisfaction over the last three years, reaching 92.8% in 2020, higher than the UCL, faculty, and sector averages (Figure 5.13). Delving deeper into the data, a key driver has been reliable and open dialogue between students and staff. We feel this is a positive reflection, not just on our teaching staff, but also on our PSS. In addition to the two senior UG administrators we have added five members to the team in the last two years to support UG and PGT learning.
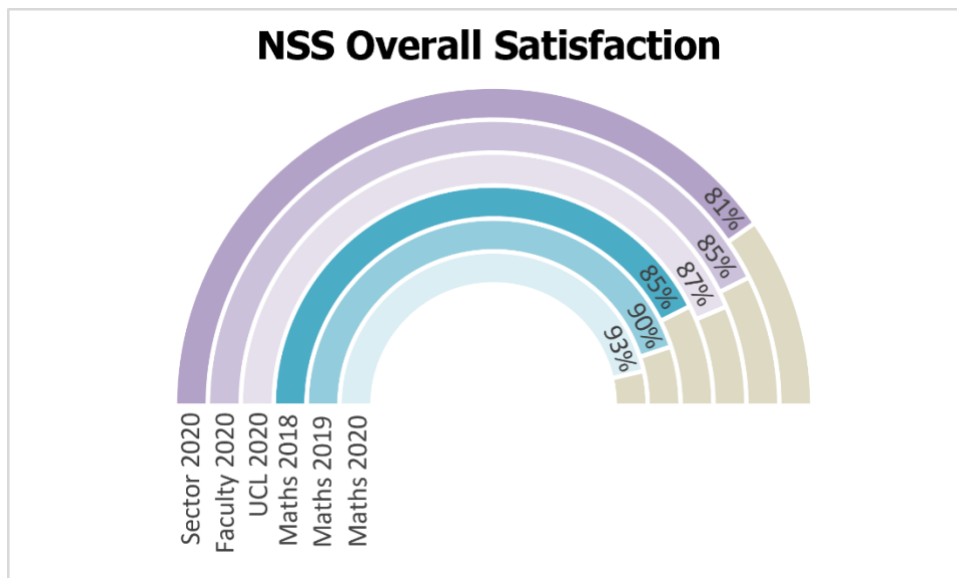
Figure 5.13 NSS overall satisfaction in the mathematics department over the last three years, compared with UCL, the faculty, and the section.

(ii)   HR policies

The formal responsibility for ensuring the consistent application of HR policies is shared between the HoD, DM, DDM and SSO. Incoming (or newly promoted) staff with management responsibilities are informed of key HR policies through compulsory training modules; eg all members of recruitment panels must completed Unconscious Bias training. Important changes in HR policies are relayed by the SSO.

Policies around equality are specifically monitored by the DM, who is the official Departmental Equal Opportunities Liaison Officer (DEOLO). She regularly emails about EDI topics and puts up posters. All staff are informed about the DEOLO and how to contact them, both during induction and online.

Staff can communicate bullying or harassment incidents to the Dignity at Work Officer, and we have staff survey questions about this. In 2018 the responses indicated 6% of staff were subjected to bullying or harassment, and 13% had witnessed this behaviour in the past two years. Responses were not significantly biased by gender but were a concern nonetheless. We believe that the core problem bullying; in our Everyday Sexism survey (see Section 3(ii)) all the reported instances of harassment were at non-UCL events.

In response, the department signed up "*Where Do You Draw The Line?*" training, which we have run several times and it is mandatory for all staff to attend a session. The course explores whether our actions cross the line, and what to do when others' actions do so. These have been well-received and acted as genuine conversation starters.

After the `Where do you draw the line?' workshop I overheard some junior male members of staff discussing the workshop and seeming dismissive of it. At the next CORU staff meeting I spoke for 10 minutes and detailed my own experiences of sexism and harassment and some I'd heard first-hand from other female scientists. By the end, the team was silent and many later thanked me and said that they'd had no idea. Hearing a successful female academic describe her own story was a powerful way of reinforcing the learning from the workshop. (Christina Pagel, Director of CORU)

(iii)   Representation of men and women on committees

The gender balance of committee membership has been stable for the last three years and Table 5.7 shows the 2019-20 academic year. Given that 16% of our academic staff were female, the female representation on these committees is high, ensuring our female staff have influence and gain leadership experience. Committee members are appointed by the HoD after discussion with potential role-holders and with committee gender balance in mind. Our contribution model (see Section 5.6 (v)) is used to ensure that time commitments are reasonable.

Table 5.7: Departmental committee members by gender August 2019.

Committee	Female	Male	Chair
SMT	1 academic 1 PS	1 academic	1 female (HoD)
Teaching	2 academics	11 (9 academics, 2 teaching fellows)	1 female academic
Research	1 academic	5 academics	1 female (HoD)
Promotion	2 academics	5 (4 academics 1 teaching fellow)	1 female (HoD)
UG+PGT staff-student	1 academic	4 (3 academics, 1 teaching fellow)	1 male teaching fellow
PG staff-student	0	2 academics	2 male academics
EDI (staff only)	6 (5 academics, 1 PDRA)	5 (3 academics, 1 teaching fellow, 1 PDRA)	1 female (HoD), 1 male teaching fellow

The most influential committees are the Senior Management Team (SMT) committee and the Research, Teaching and Promotions committees; 4 of these 5 have female chairs.

(iv)   Participation on influential external committees

Participation in influential external committees is recognised in promotions and mitigated for in the workload. All staff are encouraged during appraisals to participate in external committees. Any relevant calls for external committees are disseminated by HoD who also makes personal recommendations to individual staff to strengthen their promotion prospects.

Our female academic staff have been particularly successful, with 6 out of 9 (67%) having membership in external influential committees (including REF2021 sub-panel in Mathematics).

(v) Workload model

The department does not yet have a formal workload model, but one of our previous action points was to introduce a `contribution model', completed in 2017. This assembles all departmental contributions (teaching, administrative, etc.) and exemptions (part-time, fellowship buyouts, sabbaticals) into a single transparent spreadsheet available on the staff intranet. All contributions are taken into account at appraisal and by Promotions Committee.

All major administrative roles carried out by academics rotate on a 3–5 year basis; the exceptions are the Heads of Pure and Applied, and we intend to change this.

> ☀ **Action 4.3 Refresh Head of Pure and Head of Applied:**
>
> Roles to be rotated every five years based on a fair and competitive internal recruitment process.

Workload allocation is carried out by the HoD who monitors gender balance. This task remains confidential as individuals may have personal circumstances which restrict their workload but should not be publicized. The contribution model has worked satisfactorily but with our recent rapid growth—14 new academic staff appointed in 2 years—it is becoming insufficient.

> ☀ **Action 10 Ensure workload allocation is fair and transparent:**
>
> We are committing to introduce a full workload model over the next two years, creating a model which takes into account teaching and departmental admin roles, with due credit for research time and personal circumstances.

Crucially, the responsibility for developing this will rest with more junior members of the department, creating buy-in from the outset.

(vi) Timing of departmental meetings and social gatherings

All departmental meetings are scheduled in the core hours of 10am-4pm, and we have recently moved Inaugural Lectures into core hours. Some social events do run into the evening (eg the Christmas party, the welcome party for new PhD students) but this is balanced with lunchtime events (eg the annual exam board lunch, the Christmas lunch for key staff, the bake sale) to make sure everyone is included.

(vii) Visibility of role models

The department works hard to promote the visibility of female and LGBTQ+ role models. Our departmental and outreach events (see Sections 5.6 (i) and (viii)) have a wide diversity of speakers. An action from our previous Athena Swan application was to achieve gender balance in our flagship departmental colloquium speakers; this has now been attained. Similarly, the De Morgan dinner for graduating students has had gender balanced speakers over the last 5 years.

We ensure visibility of our pioneering history, telling all open day students how we were the first to admit women on equal terms with men; and naming the Susan Brown Prize (see culture section). The images on our website (Figure 4.4) show a gender balanced selection of staff and students.

Of the 6 female teaching staff available to teach UG modules, 4 have taught large compulsory modules in the period; currently a third of first-year modules have female lecturers.

(viii)   Outreach activities

The department has an extensive programme of outreach of activities which has become part of the fabric of our identity as a department. It is headed by Luciano Rila (grade 8) who formally commits a third of his time to outreach and EDI activities. We have a strong team of PhD students (11F/11M) planning and delivering outreach. Helen Wilson and Christina Pagel (both grade 10) make regular contributions as speakers, as well as Hannah Fry (PhD alumna).

We work closely with UCL WP team, offering regular outreach activities for Year 12 students: 3 summer schools a year and problem solving classes in the Spring term. We also run many events which are widely publicised, raising awareness of our commitment to outreach. Examples include:

- In 2018 we secured funding from the Institute of Mathematics and Its Applications to run a Summer event for sixth formers promoting the work of female mathematicians, which featured Hannah Fry and our HoD.
- In October 2018 we ran an enrichment event in celebration of Black Mathematician Month aimed at Year 9–10 students of African-Caribbean descent at the London Academy of Excellence Tottenham. We had 50 students from five schools attending the event. David Lammy and Dr. Nira Chamberlain were guest speakers.
- We host the Royal Institution and their Masterclasses programme since 2014.
- A group of PhD students linked to our CDT run London Maths Outreach, a programme of after-school courses aimed at Year 10 –13 students with a commitment to supporting women in mathematics.
- Our PhD and UG students publish *Chalkdust* twice a year, a magazine aimed at the mathematically curious.

SILVER APPLICATIONS ONLY

6.   CASE STUDIES: IMPACT ON INDIVIDUALS
Recommended word count: Silver 1000 words

7.   FURTHER INFORMATION: PANDEMIC RESPONSE
Recommended word count: Bronze: 500 words | Silver: 500 words

Word count: 615

In early March, some academic staff with health conditions started to work from home. UCL moved all teaching for the last 2 weeks of term online.

Crucial to the department's ability to work effectively during lockdown was the preparation by our IT team in the 3 weeks up to lockdown. Our IT Manager built a new server and PSS had home laptops updated by the IT Administrator. All staff were sent any additional equipment they needed for a better home working environment, including loan laptops if home laptops broke. Tablets were provided for staff and PhD students to facilitate mathematical collaborations and teaching.

Considering the wellbeing of a close knit and active PSS team, the DM set up 2 weekly team meetings with PSS, one formal, one informal, as well as a PSS WhatsApp group. Buddy-systems for PSS and academics were set-up with buddies asked to check-in with each other once a week. These arrangements are ongoing.

> **Action 9.1.3:**
>
> Create buddy system during department closure for staff to check in with one another. Continue social activities remotely.

Mental health awareness has underpinned the department's response. The DM is a mental health first aider. In addition to the daily central-UCL , the department sent regular emails to staff and PhD students from the HoD and DM to reach out to anyone struggling. Teams were set up on MS Teams for staff and PhD/PGT students to encourage meetups. PhD students continued to use their WhatsApp group. The department Wellbeing Champion sent out 3 sets of communications with useful tips on working from home, home-schooling, and mental health awareness. T&L PSS and the DM continued to be available for all students to provide pastoral care.

In preparation for limited reopening in a Covid-19-safe way, the department surveyed all staff to identify at-risk staff, and those willing/keen to return to their offices. Risk assessments were carried out for at-risk staff, and staff and PhD students were put into cohorts with set office days.

> **Action 9.1.1:**
>
> When reopening the department, arrange staff cohorts so that those with less suitable home working arrangements could access the building more days per week (up to 3 days/week for some).

Limited voluntary small-group F2F teaching was arranged, with all other teaching online. The difficulty of this task was compounded by government changes in A-level results leading to over double UG recruitment this year. Teaching staff were supported by year group coordinators, PGTAs and IT staff. Two T&L PSS were recruited to cope with the extra load, plus extra teaching staff.

All staff and PhD students were given necessary flexibility in their hours to balance caring and home schooling and other stresses/mental health issues brought on by Covid-19, including some suffering symptoms. All such effects will be taken into account for all future appraisals, promotions, extensions. Extensions have been provided for postdocs with contracts ending August 2020 and final-year PhD students; other PhD students note any issues in their student log to be taken into account later. PhD viva's moved online with 14 (4F/10M) taking place since the start of lockdown, all were successful.

> **✳ Action 9.1.2:**
>
> Mitigate as far as possible the effects on parents' careers of home school during the first lockdown. This includes (a) provision of small grants for home-schooling equipment, (b) very flexible scheduling of meetings, including some outside "normal working hours" to account for disrupted working patterns, and (c) acknowledge in promotion criteria that lack of research in 2020 is normal, and does not need to be "explained away".

Feedback from staff has particularly praised the IT for going "above and beyond" dealing with all the technical challenges arising from the transition. The sustained focus on wellbeing, and in particular the buddy-system, have been sincerely appreciated, with several expressing the sentiment: "I was glad to work here, both in itself and when I compared situations with colleagues working in other institutions". Students also recognise the efforts of all staff to transition to a new way of working, one saying "the response from the maths department over pandemic has been phenomenal".

While the burden of preparing the department's response to the pandemic has fallen more heavily on some shoulders than others, we are proud as a community that it has been the combined effort of every member of the department, from the HoD to the front-line teaching staff to the PSS behind the scenes to the students, all adapting to our new normal.

8. ACTION PLAN

The action plan should present prioritised actions to address the issues identified in this application.

Please present the action plan in the form of a table. For each action define an appropriate success/outcome measure, identify the person/position(s) responsible for the action, and timescales for completion.

The plan should cover current initiatives and your aspirations for the next four years. Actions, and their measures of success, should be Specific, Measurable, Achievable, Relevant and Time-bound (SMART).

See the awards handbook for an example template for an action plan.

LANDSCAPE PAGE

Actions are prioritised as indicated by the use of shading: high, medium and low priority.

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
Issue 1: Restructuring the EDI Committee
1.1 Establish clear guidelines regarding committee membership roles and commitment.	PhD students and postdocs had clear duties but staff members had a less defined role in the committee. As a result, commitment from staff members was variable.	1.1.1 Co-develop Terms of Reference for the committee.	Terms of Reference to be discussed in committee meeting.	March 2021	Current committee co-chairs (Helen Wilson and Luciano Rila)	Terms of Reference document, jointly developed by whole committee, uploaded in staff intranet.
		1.1.2 Identify areas of work for sub-groups within the committee, referencing tasks in this action plan.	Consultation with other departments that adopt sub-group committee structure. Cross-reference with action plan.	March 2021		Document outlining the remit of each committee sub-group and clear guidelines regarding commitment.
1.2 Refresh and restructure committee membership.	Recruitment for the committee was highly focused on ensuring representation of different groups in the department. The committee was large and roles unclear. We aim to have a more effective team and to include UG representatives.	1.2.1 Recruit new committee once new sub-group structure is established.	Run short online presentations promoting the committee's work to the department in an effort to recruit new members.	June 2021	Luciano Rila (co-chair)	New committee membership in place by June 2021
		1.2.2 Recruit UG student representatives.	Shortlist of interested UG students.	June 2021		
1.3 Ensure the department is better informed about and more involved in EDI strategy.	EDI is a permanent item in departmental meetings and the HoD emails the department about EDI actions/issues as and when relevant. A	1.3.1 EDI newsletter to be issued once termly to all staff and students.	First edition announcing the outcome of this application.	April 2021 and termly thereafter	Kate Fraser	Increased awareness of departmental EDI work (measured in staff survey, question "I think UCL respects individual differences"). [Benchmark: 2017 87%; Target: 95% by 2023]

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
	more structured approach to how we keep the department informed about on-going work, would help strengthen the EDI culture in the department.					
		1.3.2 Formal structure for interactions with the wider department	A representative of relevant committees (such as research, promotions, staff-student, teaching) to attend one EDI meeting each year, bringing issues of concern in their area; this area becomes the focus of the meeting	Cycle begins in autumn 2021; one representative for each SAT meeting, and associated focus for meeting	HoD to nominate representatives from each departmental committee. Co-chairs to invite.	Outcome: More active collaboration between the EDI committee and all relevant departmental committees. Evidence / criteria: Fresh Athena actions generated by committees beyond EDI committee.
1.4 Structured management of the action plan.	Monitoring of the action plan needs to be structured and embedded in the committee activities	Create an EDI calendar to facilitate the monitoring of the action plan.	First draft of EDI calendar (which will be an on-going document)	March 2021	Luciano Rila and David Sheard	Calendar in place. Progress monitored against action plan.
Issue 2: Underrepresentation of women in PhD student body						
2.1 Ensure our recruitment process is welcoming	Research shows women perform better when other women are present. Tension between this action and overload of female academic staff. Since 2019, all interview panels for female PhD students have included	All PhD interview panels (typically of size 3) should be gender-balanced (i.e. 2M1F or 1M2F).	PhD candidates should not face an all-male panel. Implemented early for female candidates (see left).	Already in place for female candidates. Roll-out to all candidates depends on staff recruitment (see left).	Graduate tutors (not on SAT) reporting to HoD	As a result of female candidates performing well at interview, proportion of female PhD students increases to 5% above the national average [currently 25%] by 2024 and stays stable or increases. [Benchmark: 2019/20 24%] If intake proportion falls we will review processes, collect feedback from

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
	at least 1F member of staff. When academic staff reach 20% female this can be rolled out to all PhD applicants.					applicants and design a better process acting on the feedback & our findings.
2.2 Ensure our recruitment process is fair	Our CDT recruitment has achieved gender balance. Applications for CDT does not require applicant to name a supervisor and choice of supervisor happens after a fixed period. We would like to explore the idea of a CDT with a 6-month programme at the start before supervisors are assigned to PhD students.	2.2.1 Monitor gender balance in our offers to applications ratio, and take action if problems arise.	Graduate tutors keep HoD up to date with progress regularly through the year. Full statistics reviewed by SAT at each meeting (ongoing).	Ongoing. First cycle in 2020-2021.	HoD	This process is ongoing. If problems are spotted, possible interventions include further training for graduate tutors / potential supervisors; change of graduate tutor.
		2.2.2 Explore the possibility of adopting a CDT model for the department.	Survey with incoming and existing PhD students (CDT and non-CDT) about potential CDT model	March 2022	Graduate tutors (not on SAT) and Luciano Rila	Survey results will inform further discussions with the department.
2.3 Increase the number of female applicants for PhDs	Good practice here includes both encouraging female PGR applications from any UG/PGT students (from UCL and other institutions), and encouraging our own female students to consider postgraduate study (whether here or not).	2.3.1 Improve the visibility of female role models in the department in terms of permanent staff, visiting speakers, and events promoting equality, diversity and inclusion.	See outputs of action point 4	Ongoing		Increase in the proportion of female applicants to PGR degrees. [Benchmark: 2018-19 33%]
		2.3.2 Support the Mary Lister McCammon Summer Research Fellowship for at least the next two years.	Fund at least 7 research projects for female UG students	2020-2023	Summer students coordinator (reporting to HoD)	An increase in the proportion of our female UG students who go on to postgraduate degrees. Benchmark in 2021 (see below). Increase by 2023.

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
	To measure success in the latter will require gathering data on graduate destinations by gender, which we do not currently have.	2.3.3 Track graduate outcomes by gender	Data on numbers of students going on to further study, disaggregated by gender	Summer 2021 graduates as first cohort	Careers tutor (reporting to HoD)	Data stored from summer 2021 onwards.
Issue 3: Underrepresentation of women in postdoc posts						
3.1 Ensure recruitment process is fair	It is common practice for academics to name a postdoctoral research assistant on a grant application (meaning that if the grant is funded then that researcher is automatically offered the postdoc job). This happens entirely at the discretion of the PI who writes the grant; there is currently no departmental oversight of the selection process or of the decision to name them. There is a clear opportunity for bias here.	3.1.1 Consult all academics to review the practice of naming postdocs in grant applications.	Include debate in departmental meetings

Report with outcome of the discussions | July 2021 | HoD | Rigorous process in place overseeing grant applications where postdocs are named |
| | PIs have a lot of influence in the recruitment of postdocs once a grant is awarded, though we do insist that | 3.1.2 Train staff to become fair recruitment specialists | Identify staff members to become fair recruitment specialists | Staff trained by the end of 2020-21. | Helen Higgins and Kate Fraser | Two members of staff complete the fair recruitment training |

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
	all panels are at least 1/3 female. These actions are about trying to minimise bias in the recruitment process.	3.1.3 Employ fair recruitment specialists throughout the recruitment process	Trial fair recruitment specialist on departmental-level post. If successful, this will allow us to champion the scheme in an informed way. Feed back to UCL.	Fair recruitment specialists to be used from 2021-22.	HoD	Fair recruitment specialists employed in recruitment round
3.2 Increase opportunities to recruit postdocs independently of PI grants	We currently host a few externally-funded postdocs. Candidates approach us and we support applications based on whether they are strong enough. Internally-funded fellowship would offer us the opportunity to put a strategic plan in place.	3.2.1 Advertise regularly and openly for the opportunity to apply for external fellowships to be hosted at UCL.	Issue quarterly adverts, with deadlines, for all externally-funded fellowships.	First advertising in time for UKRI FLF internal deadline, September 2021.	Fellowships coordinator (not on SAT) reporting to HoD.	Proportion of female applicants for external fellowships increases to PhD student national benchmark [25%] by 2024. [Benchmark: 2017-19 16%]
		3.2.2 Establish new Susan Brown departmental fellowship scheme.	Put forward business plan in 2021-22 budget Advertise first fellowship in 2022-23	First fellowship in 2022-23	HoD and Helen Higgins	Number of female applicants for external fellowships increases to an average of at least one per year by 2024. [Benchmark: 2014-19 2 applicants in 5 years]
	EPSRC Doctoral Prizes are an opportunity to spend another year or two on research after a PhD. Only EPSRC-funded PhD students are eligible. Currently our PhD students who do not have other external funding are assigned either EPSRC awards (3.5 years) or Teaching	3.2.3 At PhD admission, ensure that the EPSRC awards are handed out by fair competition, coupled with student preference.	Discussion with graduate tutors	2021-22 PhD recruitment	Graduate tutors (reporting to HoD)	Short term: more PhD students applying for EPSRC Doctoral Prizes. Target: at least one per year by 2023. [Benchmark: one applicant in 2015-19]
		3.2.4 Promote EPSRC Doctoral Prizes to our PhD students more effectively	Email PhD students raising awareness of EPSRC Doctoral Prizes, every 6 months.	First deadline 20 January 2021	Fellowships coordinator (reporting to HoD)	Longer term: proportion of female applicants to this scheme at least as high as our PhD student population. Timeframe beyond this Athena round.

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
	Assistantships (4 years) on admission, using an informal process (and taking into account teaching ability). Processes could be more effective and transparent.		Supervisors to promote EPSRC Doctoral Prizes to students at the appropriate stage in their doctorate.			Once a regular stream is set up we can being to track gender ratios and take further action if required.
3.3 Better support PhD students' career progression	Progression through the academic pipeline is difficult especially for women who tend to decrease in number the higher you go. It is important therefore to offer guidance and support for PhD students wishing to apply for academic positions.	Establish a mock interview scheme for final-year PhD students and invite Postdocs to form part of the interview panel.	Annual rounds of mock applications and interviews with feedback from academics on CVs, research statements, presentations, and interviews, timed in the run up to the normal Postdoc interview period.	Beginning 2021	Graduate Tutors, (reporting to Rod Halburd)	Increase the proportion of PhD students wishing to stay in academia who have an academic position within 3 months of graduating.
Issue 4: Underrepresentation of women in academic posts						
4.1 Raise our profile with potential female candidates		4.1.1 Invite diverse early career academics to speak at departmental seminars	Seminar speakers should be at least 50% ECR and 40% female. [Benchmark 2018/19: 33% ECR, 16% female]	2022/23	Head of Pure and Head of Applied (and HoD)	Increase proportion of applicants to academic posts who are female. [Target: 25% by 2024] [Benchmark: 2018 18%]
		4.1.2 Run regular, well-publicised mathematics	UCL Mathematics leads on two such events each	Established series by 2022	Luciano Rila	

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
		diversity events (such as Diversity in Mathematics wikithon, Susan Brown Day, LGBT event, Black Mathematicians event)	year, with full use of twitter and HoDs of Mathematical Sciences network to advertise.			
		4.1.3 With a view to attracting a different pool of mathematicians, organise a "Mathematics with Charity" study group	Target: at least 15 external participants of whom at least 5 female. Track gender proportion of applications; if it is substantially higher than the norm for academic posts, convert this to a regular event.	First event run by 2022	Nick Ovenden	
4.2 Make our appointment process more female-friendly	Feedback sought since 2018 from female candidates who turn us down. Feedback that the day was unwelcoming (Dec 2018) led us to bring in lunches with current staff for lectureship candidates (2019).	4.2.1 Revise our adverts to ensure they are not unintentionally putting off female candidates	All new adverts to be run through the "Gender Decoder" http://gender-decoder.katmatfield.com/ to check for gendered language. Standard process by 2020/21. Ensure all new diversity information (extra events etc.) regularly filters through to "About the department" section.	Gendered language: Academics done [2018/19]. Postdocs / teaching fellows ongoing. Updating of "About the department" – up to date now but updating has been sporadic.	Kate Fraser	
		4.2.2 Explore the concept of research excellence, how we judge it, and	Liaise with Faculty EDI committee	July 2022 but this will be an evolving document.	Research committee (reporting via Rod Halburd)	Higher proportion of offers to females (though there is expected to be equivalent uptick for other minorities). [Target: 35% by 2024]

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
		whether it is implicitly discriminatory.	Report on research excellence			[Benchmark: 2018 27%]
		4.2.3 Seek feedback on the application process from all female candidates who turn down an offer from us, and from our new starters; improve the format of interview days in response.	Needs to happen after every appointment round. New starters to be interviewed within 12 months of starting.	First new starter interviews planned for summer 2020.	HoD for candidates who reject us. Kate Fraser for new starters. HoD for changes to interview days.	Female candidates more likely then they were to accept our offer. [Target: 75% by 2024] [Benchmark: 2018 33%; for male candidates it was 87%]
4.3 Ensure the department is open to change	Many key strategic roles in the department (Head of Department, Chair of the Board of Examiners, Chair of Departmental Teaching Committee, etc) have a fixed term (typically 3-5 years) and are refreshed on a rolling basis. The two key roles of Head of Pure Mathematics and Head of Applied Mathematics are not. These professors lead their respective research sections in the department, drive recruitment in their area, and informally mentor new members of	Refresh Head of Pure and Head of Applied every 5 years.	Both roles refreshed via a fair and competitive internal recruitment process	Sep 2021	HoD	New holders in post

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
	staff. Fixed-term tenure brings fresh views and offer opportunity for other colleagues to take on a senior role.					
4.4 Support our postdocs seeking academic posts elsewhere	The transition from postdoc to academic is a big loss point in the leaky pipeline of UK mathematics. Though our own postdocs will typically not become staff at UCL, we should support them in their next steps.	4.4.1 Roll out mock panels for postdocs applying for fellowships or academic posts.	Use the format set up in the pilot scheme. Recruit a panel of 3-4 academic staff and all interested postdocs. "Candidates" submit a research proposal and have a 30-minute interview followed by constructive feedback.	Panels run annually in exam period from 2022 onwards.	Rod Halburd and Yiannis Petridis (not on SAT)	Postdocs report increased confidence about interviews following the session (assessed by session feedback form). Longer term: increased success rates for female PDRAs at interview (needs benchmark, see below).
		4.4.2 Capture postdoc destination information	Gather data on next appointment for postdocs leaving UCL Mathematics, 2015-2020.	Data on postdoc destinations up to 2020 gathered by May 2021.		Information available against which to measure progress in 4.4.1 above.
Issue 5: Gender pay gap						
5.1 Ensure starting salaries are equitable	Large recruitment rounds in 2018/19 (11 new starters) gave unprecedented opportunity to cross-compare. Four underpaid outliers were identified (2M current staff, 1M1F new starters). Current staff	Allocate new starters' salaries against a benchmark of other recent starters.	We will have a number of posts being advertised in 2020-21 with this system in place.	March 2021	HoD	Reduction in gender pay gap across all grades. Better equity between members of the department.
			Refine criteria for starting salary offers after this year's recruitment round, taking into account the	July 2021		

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
	now both promoted to Associate Professor; new starters had their offer amended upwards. Each subsequent round: HoD to refine criteria.		eventual result after negotiation			
Issue 6: PhD student dissatisfaction						
6.1 Improve support for PhD students	The PhD student survey identified a great concern that female students 'considered leaving PhD early occasionally or often'. Given the low response rate, we decided to run a very short anonymous questionnaire, 'Have you considered leaving you PhD early?'(No/Yes, occasionally/Yes, often) and an optional free text box for comments. The response rate increased to 51% and we did confirm that a higher proportion of students were considering leaving their PhD early than in 2017. The gender disparity was not as significant as in the first	6.1.1 Improve supervision and the extent to which supervisors encourage their students to continue.	Establish a supervision working group (2020/21) to gather and disseminate good practice in the department. Survey to gather PhD students' views of the student-supervisor relationship. Supervision to be a standing item on staff meeting agenda from spring 2021.	First survey 2021. Working group for 4 years initially.	Lead to be identified (not necessarily in the SAT) and PhD student representatives	PhD students feel more comfortable in their relationship with their supervisor. (assessed via survey) [Benchmark in 2021] [Improvement by 2024]
		6.1.2 Empower PhD students to feel in control of their own PhD trajectory	Guidance sessions (i) for PhD students at the beginning of their studies, and (ii) for those who have upgraded from MPhil to PhD	Sessions for those who have recently started have been running for 2 years; higher-level sessions to begin in summer 2020.	Luciano Rila in liaison with Dave Hewett (academic staff member not on SAT).	Reduced proportion of students considering leaving their PhD early. (assessed via survey) [Target: 40% by 2023] [Benchmark: 2019 60%]
		6.1.3 Reframe career support for PhD students to include links with employers outside academia	One-off event involving PhD alumni working outside academia (autumn 2021); Establish broader links with	On-going	Nick Ovenden	

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
	2019 survey with the low response rate but it still showed that female students were more likely to consider leaving early (69% F, 52% M considering leaving PhD early, occasionally or often). The main reasons for considering leaving PhD early were lack of confidence, isolation, lack of structure and financial difficulties.		industry to create a knowledge exchange programme of seminars where academics and mathematicians in industry come together (from 2021/22 onwards)			
		6.1.4 Ensure female PhD students feel part of the department	Establish women in maths online seminar led by female PhD students by summer 2021.	On-going	Luciano Rila with Angelika Manhart (academic staff member not on SAT)	Improve student experience. (assessed via survey)
		6.1.5 Set up mock panels for PhD students applying for postdocs; invite postdocs to carry out interviews.	Pilot mock panel and seek feedback from PhD students. Gather students' views on best timing.	Pilot in summer 2022. Regular from 2022/23 cycle.	Hao Ni	Improve student experience. (assessed via survey)
Issue 7: Dissatisfaction with appraisals						
7.1 Ensure promotion processes are fair	Staff survey identified a gender discrepancy in satisfaction with appraisals. Several possible causes have been identified, including untrained appraisers; poor objective setting resulting from HoD overload (HoD currently	7.1.1 Ensure all PI with postdocs on their grants are appraisal-trained. as soon as training becomes available (unavailable since early 2019)	Current grant-holders are the priority. All research-active academic staff should be trained in due course.	Current PIs of postdocs within 6 months of training becoming available. All staff to be trained within 12 months of training becoming available.	Kate Fraser	Increase in female staff satisfaction with their appraisals (assessed by staff survey question "My last appraisal helped identify opportunities for personal development") By 2022: female staff satisfaction at least as high as male staff. By 2024: equality retained; all staff at least 80% satisfied.

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
	appraises all professors and probationers); an unclear process for additional increments; and a lack of promotion process for PS staff (who have a higher female:male ratio than other staff). A further survey of PS staff indicated high appraisal satisfaction levels but suggested that available training courses might be better communicated.	7.1.2 Relieve HoD appraisal overload by introducing a structured appraisals tree.	Recruit 6 extra senior academics to the appraisals team. Assign all staff to an appraiser, such that no-one carries out more than 9 appraisals per year. All those who appraise non-professorial staff join Promotion Committee.	Structure in place by June 2021. Appraisals from new appraisers begin in autumn 2021.	HoD	[Benchmark: 2018 F40%; M78%]
		7.1.3 Run departmental training for all appraisers of academics and teaching fellows, to include discussion of the criteria for applying for extra increments.	Short (one-hour) departmental event. May need to be run multiple times to catch all relevant staff. Should follow the restructuring process of 7.1.2 above and apply to the new wider set of appraisers.	All academic appraisers trained by December 2021.	HoD & Kate Fraser	
		7.1.4 Provide training course options to PS staff at appraisal.	Gather list of courses (internal and external) that could be offered subject to funding permission; make available to all PS staff who carry out appraisals, for use when appropriate for the person being appraised.	List created by December 2021, implemented immediately on completion.	Helen Higgins	
Issue 8: Apparent bias in the PGT admissions process						

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
8.1 Ensure the PGT admissions process is fair	Recruitment data suggests the possibility that female PGT applicants are being disadvantaged by the application process in the last two years. If this is the case, the cause must be found and fixed as soon as possible.	8.1.1 Collect data on reasons for applications being rejected.	Identify the reason for the apparent bias against female applicants. If female applicant pool is not less well qualified than male pool, seek solutions.	Starting in the 2020/21 recruitment round and ongoing.	PGT admissions tutors reporting to HoD	The number of offers made to female applicants should be in proportion to the number of applications, after grades taken into account, by 2023. [Benchmark: 2018 female applicant 76% as likely to get an offer as male applicant; information about grades not yet collected]
		8.1.2 Remove gender-identifying information (including name) from applications before they are reviewed.	Eliminate possible sources of bias in the PGT application process.	2021/22 recruitment round.		The proportion of female PGT students each year remains stable or increases. [Benchmark: 2018 42%]
Issue 9: EDI issues arising from remote work/study						
9.1 Mitigate the disproportionate effects of the pandemic on female staff.	More junior / less well paid staff typically have a less suitable home working environment. Given the gender distribution of our academic and PS staff this correlates with gender.	9.1.1 When reopening the department, arrange staff cohorts so that those with less suitable home working arrangements could access the building more days per week (up to 3 days/week for some, average being 1.25).		September 2020	HoD and Department Manager (both on SAT) and deputy HoD (not on SAT)	Increase in staff satisfaction with their working environment (assessed by staff survey question "I have the resources and equipment I need to work effectively"). [Benchmark: 2017 30%]
	Difficult arrangements for parents while home-schooling. It is widely accepted that mothers were typically worse affected than fathers by this, though we have parents of both genders who were heavily	9.1.2 Mitigate as far as possible the effects on parents' careers of home school during the first lockdown. Actions (a) and (b), which were short term and are already completed, were	(a) Provision of small grants to assist those badly affected (typically equipment such as iPads / whiteboards to help with home schooling). (b) Very flexible scheduling of meetings to account for the working	(a), (b) applied in March-July. (c) is ongoing, first mitigated promotion cases will be put in in December 2020.		No drop in staff satisfaction with promotion processes (assessed by staff survey question "I think UCL's promotion process is fair"). [Benchmark: 2017 63%]

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
	affected (single parents or those whose partners are key workers).	created in response to immediate staff demand from those worst affected.	patterns of those with children (including arranging some meetings outside of "normal" working hours). (c) Acknowledgement in promotion criteria that lack of research in 2020 is normal and not something that needs to be explained away.			
	Address potential mental health issues due to isolation	9.1.3 Create buddy system during department closure for staff to check in with one another. Continue social activities remotely.	PS staff Friday cocktails. Department Christmas party.	March-December 2020		No drop in staff satisfaction with staff survey question "I would recommend UCL as a good place to work". [Benchmark: 2017 68%.]
Issue 10: Lack of workload model						
10.1 Ensure workload allocation is fair and transparent	The department has no workload model, only a spreadsheet of duties. Allocation of major jobs is entirely by HoD with only informal note taken of other duties. Not only is this prone to human error (especially with the increasing size of the department) but it is dependent on the HoD's good intentions. A formal workload model	Create a workload model which takes into account teaching and departmental admin roles, with due credit for research time and personal circumstances.	(a) Gather workload models from across UCL and from similar-sized Mathematics departments. (b) Propose possible weightings of different activities / different allocation rubrics and discuss with all academic staff (c) Finalise model and process and responsibility for updating it.	Model fully operational by 2023 (handover to next HoD)	Subgroup to be recruited in action 1.2.1. Reports to HoD but the process runs independently of HoD.	All staff aware of their own workload allocation, the mechanism for calculating it, and departmental norms.

Improved response to staff survey question "The people I work with cooperate to get the job done" [Target: 95% by 2023] [Benchmark: 2017 87%] |

Objective	Assessment	Action	Key outputs and milestones	Timeframe	Lead	Success criteria/Outcome
	will be a useful management tool in allocating duties, a demonstration of workload fairness, and a defence against future inequity.					