



**Summaries of observations on the destinations of STEMM leavers from higher education and on higher education staff including their previous employment and leaving destinations**

**December 2013**

## Contents

Contents	2
1. Leaving destinations of students	3
1.1 HESA data relating to students	3
1.2 Observations on patterns of graduation activities of students by gender and subject	7
1.3 Observations on patterns of student subject choice by ethnicity and graduation activities of students by ethnicity and subject	17
1.4 Observations on patterns of graduation activities of students by disability and subject	40
2. Observations on higher education staff and on their previous employment and leaving destinations	48
2.2 General observations on the ethnicity of UK national academic staff by cost centre	52
2.3 General observations on the disability status of academic staff by cost centre	52
2.3 Detailed observations by cost centres	52
Appendix: HESA STEMM subject groups and subjects	67

## 1. Leaving destinations of students

In the following sections summaries of data analyses of the leaving destinations of leavers from higher education are presented. The full data analyses are available separately.

For the purposes of the analysis, data for leavers from 2007/08 to 2010/11 have been combined.

### 1.1 HESA data relating to students

The Higher Education Statistics Agency (HESA) holds data on students registered for courses in UK HEIs. Individual students are recorded as FTEs split between the subjects that they study: a full-time physics student is recorded as 1.0 FTE, while a student splitting their time equally between physics and another subject will be recorded as 0.5 FTE physics.

The HESA standard registration population records students registered on a course in the period 1 August to 31 July of a particular year.

The population splits the student experience into “years of study”. The first year is deemed to start on the commencement date of the student, with second and subsequent years starting on, or near, the anniversary of that date.

The HESA qualifications obtained population is a count of students associated with the award of an HE qualification (excluding HE institutional credits) during the period 1 August to 31 July of a particular year, which were returned to HESA by 31 October in that year. This includes qualifications awarded from dormant, writing-up and sabbatical status students.

The Destinations of Leavers from Higher Education (DLHE) record, the analysis of which is summarised in this document, supplements the Student record with information about what those completing their HE experience, and respond to the DLHE questionnaire, go on to do. The HESA Destinations of Leavers from Higher Education (DLHE) target population contains all United Kingdom (UK) and European Union (EU) domiciled students<sup>1</sup> reported to HESA for the reporting period (1 August to 31 July for each particular year) as obtaining relevant qualifications and whose study was full-time or part-time (including sandwich students and those writing-up theses). Awards from dormant status are not included in the target population. Relevant qualifications exclude professional qualifications. Officially, the Crown Dependencies of Guernsey, Jersey and the Isle of Man are not part of the UK or the EU. However, they are grouped with and assumed to be part of the UK in the HESA DLHE record.

HESA implements a strategy in published and released tabulations designed to prevent the disclosure of personal information about any individual which has been followed in this report. This strategy involves rounding all numbers to the nearest multiple of 5. A summary of this strategy is as follows:

- 0, 1, 2 are rounded to 0
- All other numbers are rounded to the nearest multiple of 5.

So, for example, 3 is represented as 5, 22 is represented as 20, 3286 is represented as 3285 while 0, 20, 55 and 3510 remain unchanged. All proportions and ratios presented in the report are calculated using unrounded figures.

---

<sup>1</sup> The DLHE target population was expanded to include leavers from all domiciles from the year 2001/12 onwards.

## Definition of a student

Students are classified by the subject they are studying. In the analyses a student studying a specific subject is defined as a student who spends 50% or more of their time studying that single subject. In other words, considering for example a physics student, physics instances are only counted where a student is recorded against physics as 0.5 FTE or more. Data are presented as headcounts of such students. To take specific examples, HEIs code students based on how much time they spend studying particular subjects. A student registered on a mathematics and physics course may be recorded as 0.5 FTE physics and 0.5 FTE mathematics. In this case that individual will count in the physics data and mathematics data. Alternatively, a student registered on a physics with mathematics course may be recorded as 0.67FTE physics and 0.33FTE mathematics in which case they will be included in the count of physics students but not in the count of mathematics students.

It should be noted that as a consequence of the definitions used, the figures may not match the numbers reported in some publications. In some cases authors report total FTEs reading a specific subject, in others authors may report a headcount of students who are reported as studying a subject for any amount of their time.

## Graduation destinations of students

HESA uses a combination of two fields, “Employment Circumstances” and “Nature of Further Study” to generate the “main activity” field, which is conventionally used to report leavers’ outcomes.

The main activities are listed below:

Main Activity
Full-time paid work only (including self-employed)
Part-time paid work only
Voluntary/unpaid work only
Work and further study
Further study only
Assumed to be unemployed
Not available for employment

Categories highlighted in yellow have more detailed destinations data associated with them, i.e., a record of the individual's occupation (physicists, accountant, etc.) and the sector worked in (manufacture of chemicals and chemical products, insurance, etc.). The Royal Society undertook an exercise to define occupations as STEMM occupations, possible STEMM occupations or non STEMM Occupation and generate a “STEMM Occupation” field.

More detail also lies behind the further study (highlighted in orange) categories, such as if someone is undertaking a course or research-based further study, enabling distinction between various types of further study.

For the purposes of this study, it was important to distinguish between those students who stay in STEMM and who leave STEMM and consequently the “Employment Circumstances”, “STEMM Occupation” and “Nature of Further Study” were used to generate the following “STEMM activities”: Working (STEMM), Working (Possibly STEMM), Working (Non STEMM), Further Study (Research), Further Study (Course), and Other Activities. The details of how these activities are derived are presented below.

Employment Circumstances	STEMM Occupation	Nature of Further Study				
		Question not answered (default)	Engaged in private, unsupervised study	Preparing a professional portfolio of my work	Registered as a research student	Registered on a course
Working Paid Full Time/Working Paid Part Time/Self-employed or Freelance/Voluntary work/Other unpaid work	STEMM Occupation	Working (STEMM)	Working (STEMM)	Working (STEMM)	Further Study (Research)	Working (STEMM)
	Possible STEMM Occupation	Working (Possibly STEMM)	Working (Possibly STEMM)	Working (Possibly STEMM)	Further Study (Research)	Working (Possibly STEMM)
	Non STEMM Occupation	Working (Non STEMM)	Working (Non STEMM)	Working (Non STEMM)	Further Study (Research)	Working (Non STEMM)
Not employed but NOT looking for employment, further study or training		Other Activities	Other Activities	Other Activities	Further Study (Research)	Further Study (Course)
Not working/Unable to work/Unemployed/Doing something else		Other Activities	Other Activities	Other Activities	Further Study (Research)	Further Study (Course)

In generating the STEMM activities, the primary observation is whether a student is working in STEMM, non-STEMM, or possibly STEMM, or not working/looking for work. The secondary observation is whether the student is studying on a course or doing research.

If someone is undertaking “research” then they are recorded as Further Study (Research) whatever their work circumstance. In general such people are probably undertaking STEMM research and so are still involved in STEMM.

Considering the rest of the population, anyone who is working in a STEMM occupation or a Possibly STEMM occupation is recorded as “Working (STEMM)” or “Working (Possibly STEMM)”, respectively, irrespective of whether they are undertaking further study or not.

The next group to be considered is those who are undertaking a course. The data doesn’t record the nature of their course so it is unknown whether these people are still in STEMM or not. These people have been recorded separately as “Further Study (Course)”.

Everyone else is then recorded as “Other Activities”.

The STEMM activities have been used to produce the detailed analyses available elsewhere, the key points of which are summarised in the sections below.

The STEMM activities are further grouped as follows to produce High-Level STEMM Outcomes

<b>STEMM Outcome</b>	<b>High-Level STEMM Outcome</b>
Working (STEMM)	STEMM
Further Study (Research)	
Working (Possibly STEMM)	Possibly STEMM
Further Study (Course)	
Working (Non STEMM)	Non-STEMM
Other Activities	

## 1.2 Observations on patterns of graduation activities of students by gender and subject

Overall a top level analysis of the activities of graduates from STEM courses at first degree, masters and doctoral level suggests that at subject group there are some differences between the graduate activities of men and women. The differences in patterns of activity between men and women do vary such that in **medicine and dentistry** subjects similar high proportions of men and women work in STEM occupations six months after graduation. In the **subjects allied to medicine** subject group again high proportions of graduates are in STEM occupations, but women are more likely than men to work in STEM occupations after first degrees. In **biological sciences, veterinary sciences, agriculture and related subjects**, and **physical sciences** similar proportions of men and women are in STEM occupations six months after completion. In **mathematical and computer sciences, engineering, technology** and **architecture, building and planning** subjects, men are more likely than women to be in STEM occupations.

In the majority of subject groups, overall, men are more likely than women to be undertaking research-based further study.

Considering individual subject groups:

- The vast majority of male and female graduates from first degree courses in **medicine and dentistry** subjects enter work in STEM. In many individual subjects there are few clear differences between patterns of activities for male and female graduates from these courses.
- High proportions of men and women graduates from **subjects allied to medicine** courses go on to work in STEM occupations, which would be expected given the vocational nature of many subjects in this subject group. There are differences between the activity patterns of men and women with women more likely than men to be in STEM occupations six months after completion but overall the patterns are similar for both sexes.
- The patterns of activity for male and female graduates from **biological science** subjects are similar although there are some differences. Overall relatively low proportions of graduates are in STEM occupations six months after completing first degrees, and high proportions are in non-STEM occupations.
- There are differences between the post-completion activities of men and women graduating from vocational courses in the **veterinary sciences, agriculture and related subjects group**. Overall, men are less likely than women to be in STEM activities. At masters, this pattern is reversed and men are more likely than women to be in working in STEM-occupations. Overall at both masters and doctoral level, women are more likely than men to be in non-STEM activities.
- Across all **physical sciences** first degree courses similar proportions of men and women are likely to be working in STEM occupations six months after completion. Women, however, are more likely to be in non-STEM occupations and are less likely to be undertaking research-related further study. There are some differences between patterns of activity of men and women after completing courses in individual physical science subjects. On the whole men are more likely than women to undertake research after completion or to be working in STEM occupations.
- Among the **mathematical and computer sciences** subject group, at individual subject level, there are differences between the post-completion patterns of activity of men and women with men being more likely than women to be in STEM occupations, and undertaking research-based further study, while women are more likely than men to be in non-STEM occupations. At masters level the same pattern is observed with women and men equally likely to be in STEM occupations, more likely to be in non-STEM occupations and less likely to be

undertaking a research-based course. At doctoral level men are more likely than women to be working in STEMM occupations after completion, but similar proportions of men and women are in non-STEMM activities.

- In **engineering** higher proportions of male graduates than female graduates enter STEMM occupations at all levels and patterns of men's and women's activity vary from subject to subject. In some engineering subjects there are no clear differences between the patterns of activity of men and women six months after completion. However, in other engineering disciplines such as **electronic and electrical engineering** and **production and manufacturing engineering** men are more likely than women to be in STEMM occupations after first degrees.
- Overall, there are some differences in the patterns of activity of male and female graduates from **technology** courses. Relatively low proportions of both men and women are working in STEMM occupations six months after completing first degree courses: 60.3% of men and 61.3% of women are undertaking non-STEMM activities.
- Male graduates from **architecture, building and planning** first degree courses are more likely to be undertaking STEMM activities than female graduates. The proportions of male and female graduates in STEMM occupations varies greatly from subject to subject.

### Medicine and dentistry

Overall around 91.8% of male and 92.8% of female first degree graduates from medicine and dentistry courses are working in STEMM occupations six months after completing their courses and there are no obvious differences between men and women.

At masters level, around 66.7% of men and 58.5% of women are in STEMM roles six months after completing. Women are more likely to be in non-STEMM activities than men.

At doctoral level 23.0% of men and 33.4% of women are undertaking non-STEMM activities six months after completing. This appears surprising and may well be an artefact of the occupation classification system.

At the individual subject level (**clinical dentistry, clinical medicine, pre-clinical medicine**) as expected from the overall subject group data, the majority of first degree graduates go to work in STEMM occupations and there are no differences between men's and women's outcomes.

At doctoral and masters level, relatively high proportions of graduates appear to be in non-STEMM activities six months after completing which, as noted above, may be an artefact of the classification system. There are no clear differences between the activities of men and women in **pre-clinical medicine**. There are differences in **clinical dentistry** and **clinical medicine** between the activities of men and women, with women more likely than men to be in non-STEMM activities.

**In summary**, the vast majority of male and female graduates from first degree courses in medicine and dentistry subjects enter work in STEMM. Lower proportions of men and women enter STEMM activities following masters and doctoral courses, although this finding needs further investigation.

### Subjects Allied to Medicine

Overall, 58.5% of men and 69.4% of women are working in STEMM occupations six months after completion and 26.0% of men and 22.6% of women are in non-STEMM activities. Similar patterns are observed at masters levels, with 58.1% of men and 64.4% of women working in STEMM occupations, and 23.8% of men and 23.1% of women in non-STEMM activities. At doctoral level, 48.6% of men and 44.3% of women work in STEMM occupations six months after completion, but, in



a similar vein to doctoral graduates from medicine and dentistry subjects, 24.2% of men and 24.4% of women are working in non-STEMM occupations, and overall 31.7% of men and 34.7% of women are in non-STEMM activities.

In **anatomy, physiology & pathology**, there are differences between the completion activities of men and women at all levels. At first degree level 37.7% of men and 46.2% of women are in STEMM occupations. Men, at 19.4%, are more likely to be on a course of further study than women, at 13.5%.

In **aural & oral sciences**, among first degree graduates, women (60.0%) are more likely than men (58.6%) to be working in STEMM occupations, but are also more likely to be working in non-STEMM occupations, 24.3% and 13.8%, respectively. There are no clear differences between the patterns of post-course activities for men and women at masters and doctoral level as number of men at masters level, and both men and women at doctoral level are too low to draw any firm conclusions.

High proportions of male and female **medical technology** first degree graduates go on to work in STEMM occupations, 75.2% and 84.2%, respectively. A similar pattern is followed at masters level. There are too few doctoral graduates to draw any firm conclusions.

The vast majority of men and women studying **nursing** go into STEMM occupations, 84.5% and 87.8%, respectively. There are similar activity patterns among masters graduates, albeit lower proportions of men and women go straight into STEMM occupations, 65.2% and 75.1%, respectively.

There are differences in the activity patterns of men and women **nutrition** graduates after their courses, with relatively high proportions going into non-STEMM activities. Only 24.8% of male and 38.0% of female first degree graduates are working in STEMM occupations six months after completing. Higher proportions of masters graduates are working in STEMM occupations six months after completion.

Among **ophthalmics** graduates, both men and women, are very likely to be working in STEMM occupations six months after completion. 84.0% of men and 84.3% of women are found in STEMM occupations. There are relatively few postgraduate qualifiers in **ophthalmics**.

First degree and masters graduates from **pharmacology, toxicology & pharmacy** are most likely to be in STEMM occupations six months after completion. 71.1% of male and 75.4% of female first degree graduates, and 65.6% of male and 75.4% of female masters graduates, are working in STEMM occupations six months after completing. There are differences in the patterns of activity of men and women. Lower proportions of men and women from doctoral programmes go into STEMM occupations, 48.8% of men and 50.6% of women.

31.7% of male and 43.1% of female first degree graduates from **other courses in subjects allied to medicine** are working in STEMM occupations six months after completion. Women are more likely than men, 29.4% and 26.3%, respectively, to be in non-STEMM occupations. Similar patterns of activity for men and women are more similar at masters and doctoral level.

**In summary**, high proportions of male and female graduates go on to work in STEMM occupations, which would be expected given the vocational nature of many subjects in this subject group. There are differences between the activity patterns of men and women with often a higher proportion of women than men going into STEMM occupations.

## Biological Sciences

Across all subjects in the **biological sciences** relatively low proportions of first degree graduates are working in STEMM occupations six months after completion, 8.3% of men and 9.2% of women, but 46.9% of men and 49.2% of women are working in non-STEMM occupations. It is likely that a high proportion of this latter group are in temporary roles. Some 4.5% of male and 3.6% of female graduates are undertaking research as part of their further study, and 16.1 of men and 17.2% of women are undertaking a course. Given the high number of graduates in the dataset, there are significant differences between the patterns of activities of men and women. At masters level, the indications are that overall women are slightly less likely than men to working in STEMM occupations and more likely to be working in non-STEMM occupations, and at doctoral level the pattern is reversed.

There are some differences between the patterns of activity of male and female graduates from **molecular biology, biophysics & biochemistry** courses and in general the higher the level of the course the more likely the graduates to enter STEMM-occupations. At first degree level, 14.4% of men and 20.7% of women are in STEMM occupations, and 23.3% of men and 23.4% of women are in non-STEMM occupations. At masters and doctoral level patterns of activity of men and women are similar. At masters level 34.3% of men and 36.8% of women are in STEMM occupations six months after completion, and at doctoral level 47.9% of men and 49.2% of women are in STEMM occupations.

For **biology** graduates at first degree level, 14.5% of men and 17.9% of women are in STEMM occupations, and 33.3% of men and 32.5% of women are in non-STEMM occupations. Overall 53.6% of men and 49.5% of women are in non-STEMM activities six months after completion. At masters level similar proportions of men and women are in STEMM occupations, 31.0% and 32.7%, respectively, and 16.4% of men and 25.4% of women are in non-STEMM occupations. At doctoral level 52.2% of male and 48.3% of female graduates are in STEMM occupations six months after completion, and 22.2% of men and 26.1% of women are in non-STEMM occupations.

Graduates from **genetics, microbiology, and zoology** show no clear differences between the patterns of activity of males and females and, in general, the higher the level of the course the more likely the graduates to enter STEMM-occupations.

**Psychology** has a high number of graduates and there are around 43,500 first degree graduates in the DLHE population from 2007/08 to 2010/11. Relatively low proportions of first degree male and female graduates are working in STEMM-occupations six months after completion, 7.0% of men and 6.2% of women. 50.4% of men and 57.7% of women are working in non-STEMM occupations, and 15.9% of men and 14.8% of women are undertaking a course. Higher proportions of graduates from masters and doctoral courses are in STEMM-occupations, 27.9% of male and 30.2% of female masters graduates, and 55.7% of male and 58.8% of female doctoral graduates. Overall, female **psychology** graduates at first degree and masters levels are less likely than male graduates to be in STEMM activities six months after completing their courses.

**In summary**, there some difference differences at the subject level between the patterns of activity of male and female graduates from biological science subjects, although in a number of subjects the differences are small.

## Veterinary Sciences, Agriculture and related subjects

Across the whole **veterinary sciences, agriculture and related subjects group**, there are differences between the patterns of activities of men and women six months after completing their courses. Overall, men are less likely than women to be in STEMM activities: 39.8% of men and 42.7% of women first degree graduates are working in STEMM occupations. At masters level, this pattern is reversed and men are more likely than women to be working in STEMM-occupations, 41.7% and 40.1%, respectively, but at doctoral level 56.1% of men and 53.7% of women are in STEMM occupations. However, overall at both masters and doctoral level, women are more likely than men to be in non-STEMM activities.

In **agriculture** at first degree level women are less likely than men to be in STEMM activities than men. 30.9% of men and 14.9% of women are in working STEMM occupations, and 29.9% of men and 51.1% of women are working in non-STEMM occupations, six months after completion. There are fewer differences between men and women in post-completion activities at masters level although women are still more likely than men to be in non-STEMM occupations, and there are too few doctoral graduates to draw any firm conclusions.

In **animal sciences** 11.6% of men and 23.6% of women are in STEMM occupations six months after completing their courses, and 45.4% of men and 41.7% of women are in non-STEMM occupations. There are too few graduates from masters and doctoral courses to draw conclusions.

The majority of graduates from **clinical veterinary medicine & dentistry** (86.8% of men and 82.2% of women) and **pre-clinical veterinary medicine** (75.7% of men and 81.2% of women), courses go into STEMM occupations as would be expected for vocational courses and there are no clear differences between the patterns of activities of male and female graduates. There are relatively few graduates from masters and doctoral level courses.

Female graduates from **food & beverage studies** are more likely than male graduates to be working in STEMM-occupations (26.8% of men and 29.1% of women), and are more likely to be undertaking a course (6.6% of men and 17.6% of women), and are less likely to be working in non-STEMM occupations, (39.4% of men and 32.7% of women). There are too few graduates at masters and doctoral level to draw any firm conclusions.

**In summary**, there are no significant differences between the post-completion activities of men and women graduating from vocational courses, but there are some differences in the activities of men and women from agriculture and food & beverage studies. Men are more likely than women to be in STEMM activities after completing agriculture courses, and less likely than women to be in STEMM activities after completing food & beverage studies.

## Physical Science

Across all **physical sciences** first degree courses similar proportions of men and women are likely to be working in STEMM occupations six months after completion, 17.4% of men and 16.4% of women. Women, however, are more likely to be in non-STEMM occupations (28.2% of men and 36.2% of women) and are less likely to be undertaking research-related further study (13.9% of men and 8.9% of women). At masters level the same pattern is observed with women and men equally likely to be in STEMM occupations (38.9% of men and 38.7% of women), more likely to be in non-STEMM occupations (19.1% of men and 25.3% of women) and less likely to be undertaking a research-based course (16.5% of men and 12.4% of women). At doctoral level men are more likely than women to be working in STEMM occupations after completion (51.7% of men and 47.0% of women), but

similar proportions of men and women are in non-STEMM activities (24.9% of men and 26.1% of women).

There are a few differences between the post-completion patterns of activity of first degree graduates from **forensic & archaeological science**, and overall over 60% of graduates are in non-STEMM activities. At masters level, women are more likely than men to be working in STEMM occupations (20.7% of men and 27.7% of women) and non-STEMM occupations (30.3% of men and 33.8% of women).

There are a few differences between patterns of activity of male and female graduates from **astronomy** courses. It is worth noting that a high proportion of first degree graduates go on to further study, including 22.7% of men and 24.8% of women going on to research-based further study. There are too few graduates at masters and doctoral levels to draw any firm conclusions.

In **chemistry** there are some differences between the post-completion activities of male and female graduates. Men are less likely than women to be working in STEMM occupations (19.2% of men and 21.9% of women), but are more likely to undertake research-based further study (24.3% of men and 18.6% of women). There are no clear differences between the patterns of activity after completion of masters graduates. At doctoral level 51.1% of men and 49.7% of women are in working STEMM occupations and 23.2% of men and 22.6% of women are in working non-STEMM occupations six months after completion.

In **geology, materials science, ocean science** and **others in physical sciences** there are few significant differences between the patterns of activity of men and women after completing courses at all levels. In **geology** 26.0% of male and 21.1% of female first degree graduates are in STEMM occupations six months after completions, and 23.8% of men and 30.0% of women are in non-STEMM occupations. 7.4% of men and 9.7% of women undertake research-based further study. Overall 45.0% of men and 45.3% of women are in non-STEMM activities six months after completion. At masters level 58.3% of men and 52.6% of women are in STEMM occupations six months after completion, with 27.0% of men and 31.2% of women in non-STEMM activities overall. At doctoral level numbers are too small to draw firm conclusions.

The numbers of **materials science** graduates are too small to draw firm conclusions.

20.1% of male and 19.0% of female **ocean science** first degree graduates are in STEMM occupations six months after completion, and 34.1% of males and 38.5% of females are in non-STEMM occupations. Overall, 54.3% of men and 56.6% of women are in non-STEMM activities. At masters level 44.6% of men and 45.7% of women are in STEMM occupations six months after completion, with 36.2% of men and 39.8% of women in non-STEMM activities overall. There are too few doctoral graduates to draw firm conclusions.

In **physical & terrestrial geographical & environmental sciences**, at first degree level 12.0% of men and 9.6% of women are in STEMM occupations six months after completion, and 42.2% of men and 47.9% of men are in non-STEMM occupations. Overall, 62.4% of men and 62.8% of women are undertaking non-STEMM activities. At masters level there is no significant difference in the patterns of activity of men and women, although 41.4% of men and 36.9% of women are in STEMM occupations and overall 40.2% of men and 45.1% of women are undertaking non-STEMM activities. There are too few graduates at doctoral level to draw firm conclusions.

In **physics** at first degree level, there are some differences in the patterns of activity of men and women with 16.3% of men and 15.1% of women working in STEMM occupations, and 18.7% of men

and 22.0% of women in non-STEMM occupations. 21.7% of men and 19.1% of women go on to research-based further study. At masters level 35.1% of men and 47.5% of women go on to STEMM occupations, but 31.6% of men and 21.5% of women undertake research-based further study. There are a few differences between the patterns of activities of men and women at doctoral level. 52.4% of men and 49.5% of women are working in STEMM occupations, and 25.8% of men and 23.6% of women are working in non-STEMM occupations.

**In summary**, there are some differences between patterns of activity after completing courses in individual physical science subjects. On the whole men are more likely than women to undertake research after completion or to be working in STEMM occupations.

### Mathematical and Computer Sciences

Across all **mathematical and computer sciences** subjects at first degree level, 32.3% of men and 17.9% of women are working in STEMM occupations six months after completing courses, 4.5% of men and 9.8% of women are in possibly-STEMM occupations, and, 26.7% of men and 34.6% of women are in non-STEMM occupations. At masters level 42.4% of men and 31.0% of women are working in STEMM occupations six months after completing courses, 8.5% of men and 10.6% of women are in possibly-STEMM occupations, and, 17.4% of men and 26.4% of women are in non-STEMM occupations. At doctoral level 43.3% of men and 35.6% of women are working in STEMM occupations six months after completing courses, 16.4% of men and 19.8% of women are in possibly-STEMM occupations, and, 25.9% of men and 28.6% of women are in non-STEMM occupations. At each level, men are more likely than women to be in STEMM employment and less likely than women to be in non-STEMM activities but there are no large differences.

In **artificial intelligence** at all levels there are no clear differences between the patterns of activity of men and women as the numbers of female graduates are too low to draw any firm conclusions.

Male **computer science** first degree graduates are more likely than female computer science graduates to be working in STEMM occupations six months after completing. 38.5% of men and 23.1% of women are working in STEMM occupations, and, 25.5% of men and 37.6% of women are in non-STEMM occupations. At masters level a similar pattern is followed: 48.6% of men and 35.3% of women are in STEMM occupations, and, 14.6% of men and 22.4% of women are in non-STEMM occupations at masters level. At doctoral level there are too few female graduates to draw any firm conclusions.

Similar patterns are seen in **information systems** to those in computer science. Male first degree graduates are more likely than female graduates to be working in STEMM occupations six months after completing. 29.5% of men and 16.9% of women are working in STEMM occupations, and, 31.4% of men and 39.6% of women are in non-STEMM occupations. At masters level a similar pattern is followed: 44.3% of men and 32.0% of women are in STEMM occupations, and, 21.1% of men and 35.4% of women are in non-STEMM occupations at masters level. At doctoral level there are too few female graduates to draw any firm conclusions.

In **mathematics**, overall men are more likely than women to be found in STEMM activities after completion. At first degree level, 17.7% of men and 14.5% of women are working in STEMM occupations, and, 28.0% of men and 31.6% of women are in non-STEMM occupations. 6.6% of men and 3.3% of women go on to research-based further study, but 19.0% of men and 23.4% of women go on to other courses. Men are actually slightly more likely than women to be undertaking non-STEMM activities. At masters level patterns between the sexes are similar. Men are more likely to go on to research degrees than women, 24.8% and 22.4%, respectively. At doctoral level there are a

few differences, although men are more likely to be in non-STEMM activities than women, 40.5% and 34.6%, respectively.

There are differences between patterns of activity of men and women upon completion in **software engineering**. 43.5% of men and 31.9% of women enter STEMM occupations at first degree level, and, 21.5% of men and 27.9% of women are in non-STEMM occupations. 55.1% of men and 35.8% of women at masters level are in STEMM occupations and 17.7% of men, and, 17.9% of women are in non-STEMM occupations. Overall 34.8% of men and 50.0% of women are in non-STEMM activities. There are very few doctoral graduates.

There is relatively little difference between the patterns of activity of men and women upon completion in **statistics** at first degree level. 23.2% of men and 22.8% of women are working in STEMM occupations, and, 29.2% of men and 30.4% of women are in non-STEMM occupations. Men are slightly more likely to be in non-STEMM activities at masters levels. Interestingly, at masters level, 36.8% of men but 46.6% of women are working in STEMM occupations six months after completing. At doctoral level, numbers are too small to draw any firm conclusions.

**In summary**, at individual subject level, there are differences between the post-completion patterns of activity of men and women with men in general being more likely than women to be in STEMM occupations, and undertaking research-based further study, while women are more likely than men to be in non-STEMM occupations.

### Engineering

Overall in engineering 45.1% of men and 36.8% of women enter STEMM occupations, and 17.0% of men and 23.2% of women enter non-STEMM occupations. Similar patterns are seen at both masters and doctoral level, with higher proportions entering STEMM occupations. At masters level, 51.4% of men and 45.5% of women are in STEMM occupations, and, 13.6% of men and 19.3% of women are in non-STEMM occupations. At doctoral level, 56.2% of men and 53.6% of women are in STEMM occupations, and, 21.1% of men and 21.1% of women are in non-STEMM occupations. It is worth noting that using other classifications of occupations also show differences. In particular, using engineering UK's classifications of engineering occupations show differences between the sexes.

In a number of engineering subjects there are no clear differences in the patterns of post-completion activities for men and women. In **aerospace engineering** there are no significant differences in patterns of post-completion activities. At first degree level 37.1% of men and 33.5% of women are working in STEMM occupations, and, 17.9% of men and 21.4% of women are in non-STEMM occupations. 6.0% of men and 7.4% of women go on to research-based further study, and, 14.0% of men and 15.8% of women go on to other courses. There are too few female masters graduates at masters or doctoral level to draw any firm conclusions.

There are also no significant differences in patterns of post-completion activities in **chemical, process & energy engineering**. At first degree level 43.0% of men and 44.2% of women are working in STEMM occupations, and, 14.7% of men and 13.3% of women are in non-STEMM occupations. 7.2% of men and 10.3% of women go on to research-based further study. At masters level 47.1% of men and 46.7% of women are working in STEMM occupations, and, 13.1% of men and 12.0% of women are in non-STEMM occupations. 13.8% of men and 15.3% of women go on to research-based further study. There are too few female doctoral graduates to draw any firm conclusions.

In **civil engineering** there is no significant difference in patterns of post-completion activities at first degree level. At first degree level 49.9% of men and 48.0% of women are working in STEMM

occupations, and, 14.0% of men and 15.7% of women are in non-STEMM occupations. At masters level 52.9% of men and 47.3% of women are working in STEMM occupations, and 16.4% of men and 19.5% of women are in non-STEMM occupations. There are too few female doctoral graduates to draw any firm conclusions.

At first degree level in **electronic and electrical engineering** 40.8% of men and 25.4% of women are working in STEMM occupations, and, 20.9% of men and 35.5% of women are in non-STEMM occupations. Overall, 39.4% of men and 54.6% of women are in non-STEMM activities. At masters level 47.9% of men and 37.6% of women are working in STEMM occupations, and, 10.4% of men and 20.5% of women are in non-STEMM occupations. There are too few female doctoral graduates to draw any firm conclusions.

At first degree level in **general engineering** 45.0% of men and 33.3% of women are working in STEMM occupations, and, 16.5% of men and 25.5% of women are in non-STEMM occupations. Overall, 32.4% of men and 40.5% of women are in non-STEMM activities. At masters level 51.5% of men and 47.6% of women are working in STEMM occupations, and, 14.6% of men and 18.2% of women are in non-STEMM occupations. There are too few female doctoral graduates to draw any firm conclusions.

In **mechanical engineering** at first degree level 49.4% of men and 43.3% of women are working in STEMM occupations, and, 14.5% of men and 20.0% of women are in non-STEMM occupations. Overall, similar proportions of men and women are in non-STEMM activities, 32.1% and 32.0%, respectively. At masters level 59.4% of men and 51.8% of women are working in STEMM occupations, and, 8.5% of men and 17.1% of women are in non-STEMM occupations. There are too few female doctoral graduates to draw any firm conclusions.

There are significant differences in the patterns of activity in **production and manufacturing engineering** at first degree level. At first degree level 41.5% of men and 21.1% of women are working in STEMM occupations, and, 23.7% of men and 31.7% of women are in non-STEMM occupations. Overall, 43.2% of men and 23.6% of women are in STEMM activities six months after completion. At masters level the difference in the patterns of activity is not significant and at doctoral level there are too few female doctoral graduates to draw any firm conclusions.

**In summary**, in **engineering** at first degree level reasonably high proportions of male graduates enter STEMM occupations and but smaller proportions of female graduates do so. Furthermore, higher proportions of male graduates than female graduates go on to research-based further study and women are more likely than men to be in non-STEMM occupations. The difference in patterns of activities do vary from subject to subject. In some subjects, e.g. **chemical, process & energy engineering**, patterns of activity at first degree level are similar for men and women while in others, e.g. **electrical and electronic engineering** or **mechanical engineering**, the patterns are very different. It is notable that **electrical and electronic engineering** and **mechanical engineering** have relatively low proportions of women studying at first degree level. Differences in patterns of activity between men and women are generally less at masters level than at first degree level, but in many cases the numbers of female doctoral graduates are too few to allow comparisons to be made.

### Technologies

Overall, there some differences in the patterns of activity of male and female graduates from **technology** courses. Relatively low proportions of both men and women are working in STEMM occupations six months after completing first degree courses, 19.6% of men and 17.1% of women. In fact, 60.3% of men and 61.3% women are undertaking non-STEMM activities. 3.0% of men and

2.1% of women undertake research degrees, and 8.8% of men and 7.9% of women undertake other courses.

At individual subject level there are few clear differences at any level. In many cases numbers of graduates are not high enough to allow comparisons to be made.

### Architecture, Building and Planning

Male graduates from **architecture, building and planning** courses are more likely to be undertaking STEM activities than female graduates. At first degree level, 42.5% of males and 28.9% of females are in STEM occupations six months after completing. 21.9% of men and 31.4% of women are in non-STEM occupations.

At first degree level in **architecture** 32.6% of men and 28.5% of women are working in STEM occupations, and, 16.3% of men and 21.6% of women are in non-STEM occupations. At masters level 29.4% of men and 27.4% of women are working in STEM occupations, and, 12.1% of men and 18.5% of women are in non-STEM occupations – 32.5% of men and 27.6% of women are in possibly-STEM occupations. There are too few female doctoral graduates to draw any firm conclusions.

In **building** patterns of activities of men and women at first degree level are fairly similar. 56.6% of men and 52.1% of women are working in STEM occupations, and, 18.2% of men and 23.4% of women are in non-STEM occupations. At masters level 58.7% of men and 50.8% of women are working in STEM occupations, and 19.0% of men and 24.0% of women are in non-STEM occupations. There are too few doctoral graduates to draw any firm conclusions.

There are no clear differences between patterns of activity of male and female graduates from **landscape design** although very low proportions of first degree graduates are in STEM occupations six months after completion, 7.9% of men and 6.4% of women, respectively. Overall, 68.1% of men and 75.7% of women are undertaking non-STEM activities. At masters level patterns are similar with, again, low proportions in STEM occupations, 10.4% of men and 10.6% of women. 69.3% of men and 70.8% of women are undertaking non-STEM activities. There are too few doctoral graduates to draw any firm conclusions. The patterns of occupations with very low proportions of graduates in STEM occupations are most likely an artefact of the classification of the occupations that **landscape design** graduates are likely to work in, i.e., these occupations are not classified as STEM occupations.

Male graduates from **planning (urban, rural & regional)** courses are more likely to be undertaking STEM activities than female graduates. 20.4% of male first degree graduates and 13.8% of female first degree graduates are working in STEM occupations, and 39.7% of men and 50.7% of women are in non-STEM occupations. Similar patterns are followed at masters level but there are smaller differences. 22.5% of male first degree graduates and 17.1% of female first degree graduates are working in STEM occupations, and 56.6% of men and 65.2% of women are in non-STEM occupations. There are too few doctoral graduates to draw any firm conclusions. As with **landscape design**, it is likely that a number of occupations that **planning** graduates are most likely to work in work not classified as STEM occupations.

**In summary**, at individual subject level there are differences between men's and women's patterns of activity after completion, with men more likely to work in STEM occupations than women. In **landscape design** and **planning**, the low proportions of graduates in STEM occupations are probably an artefact of the classifications of occupations.



### 1.3 Observations on patterns of student subject choice by ethnicity and graduation activities of students by ethnicity and subject

- Overall a top level analysis of the distributions students studying STEMM courses at first degree, masters and doctoral level suggests that there are differences in the distributions of different ethnic groups between subjects. In particular Asian groups are more likely to study **medicine and dentistry, subjects allied to medicine, and mathematical and computer science** subjects than White students. Chinese students also are more likely to study medicine and dentistry subjects than White students, and female Chinese students are more likely to study **engineering** or **mathematical and computer science** subjects than White female students. Also, BME groups are less likely to study **physical sciences or veterinary sciences, agriculture and related subjects** than White students.
- Overall BME graduates, at all levels, are less likely than White graduates to be in working in STEMM occupations in particular, or STEMM activities in general, six months after completing their courses.

#### Comparison of student population with 2011 census population

The makeup of the UK domiciled first year populations is shown in the Table below together with the makeup of the of the England and Wales population aged between 18 and 19 at the time of the 2011 census. The census figures are not restricted to UK nationals: some BME groups may be over represented, and, of course, the data for Scotland are not included.

Ethnic Group	Ethnic composition of England and Wales population aged 18-19 in 2011	Breakdown of UK 1 <sup>st</sup> year students by ethnicity		
		1 <sup>st</sup> Degree students	Masters students	Doctorate students
White	82.5%	79.5%	79.6%	83.6%
Asian or Asian British - Indian	2.5%	3.2%	4.0%	3.0%
Asian or Asian British - Pakistani	2.5%	2.6%	2.0%	1.2%
Asian or Asian British - Bangladeshi	1.0%	1.0%	0.6%	0.3%
Other Asian background	1.6%	1.6%	1.7%	2.1%
Black or Black British - African	2.2%	4.6%	5.0%	2.5%
Black or Black British - Caribbean	1.1%	1.7%	1.1%	0.5%
Other Black background	0.6%	0.3%	0.3%	0.2%
Chinese	1.2%	0.8%	1.5%	1.7%
Other and mixed Ethnic background	4.6%	4.6%	4.2%	4.9%

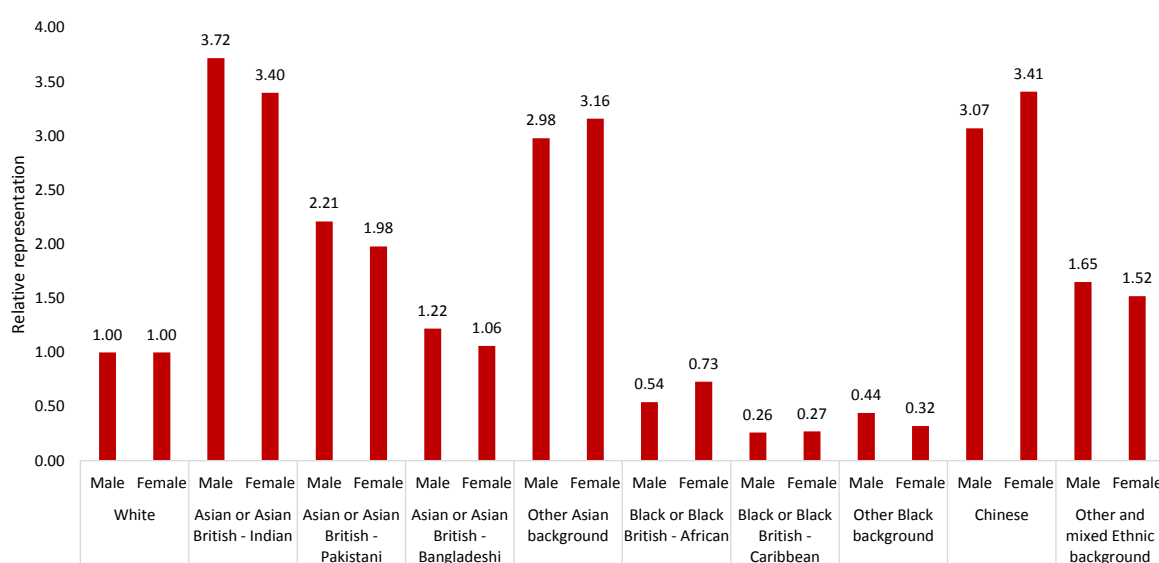
The data suggest that in particular British Indian and Black African, and Black Caribbean are over represented in the undergraduate population relative to the 2011 census population. The observation that Black Caribbean students are over represented is surprising given that male Black Caribbean students do not perform well at school. This observation warrants further investigation. It is also noticeable that Chinese students are underrepresented in the undergraduate population which is also surprising given that Chinese students generally perform well at school and this also warrants further investigation.

## Observations by Subject Group

In making comparisons below, the relative representation of individual *ethnic gender* groups (an *ethnic gender* group is male or females of a particular ethnic group, e.g., British Indian males or Chinese females) in 2011/12 is calculated by comparing the proportion of a given ethnic gender group reading a particular subject with the proportion of male or female White students reading that subject. In other words, if 2% of White males and 4% of British Indian males are reading pre-clinical medicine, the relative representation of British Indian males is 2.0. This tool is used below in order to assess the relative popularity of specific subject within ethnic gender groups. In all cases comparisons are made using the UK domiciled student populations.

The methodology for assigning outcomes to graduate population is outlined elsewhere. The analysis is carried out for graduates from 2007/08 to 2010/11 inclusive.

### Medicine and dentistry



**Figure 1:** Relative representation by ethnic group and gender for UK domiciled first degrees students in the medicine and dentistry subject group.

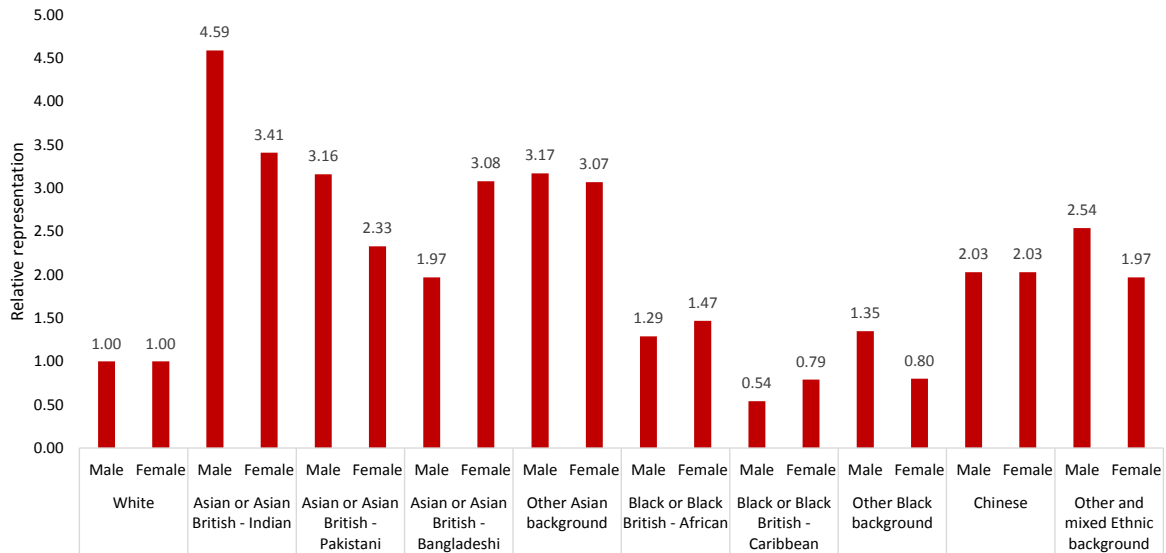
Overall across the **medicine and dentistry** subject group, relative to the total student population, British Indian students are over represented in the first degree population at about 10%. Males are 3.7 times over represented compared to the White male student population, and women are 3.4 times over represented compared to the White female student population.<sup>2</sup> Males and females in the other Asian group are also around 3 times overrepresented, and, Chinese males are 3 times over represented, and Chinese females are 3.4 times over represented. In general Black groups are under-represented, and in particular, Black Caribbean students are about 4 times under represented. British Pakistani students are also over represented, around 2.2 for males and 2.0 for women. Details are shown in Figure 1.

At the individual subject level of particular note is the representation of British Indians and British Pakistanis in **pre-clinical dentistry**. British Indians males are 13.6 times over represented, and

<sup>2</sup> In the rest of this section, explicit reference to the White student population will not be made. Relative representation is always given in comparison to the White male or female student population, respectively.

females are 16.3 time over represented, and British Pakistanis males are 7.1 and females are 5.9 time over represented.

In the majority of medicine and dentistry subjects, first degree BME graduates are slightly less likely than White graduates to be in STEMM six months after graduation. The differences are in fact significant but, overall in the medicine and dentistry subject group the vast majority of students are in STEMM six months after graduation, 93.0% of White students and 91.5% of BME graduates.

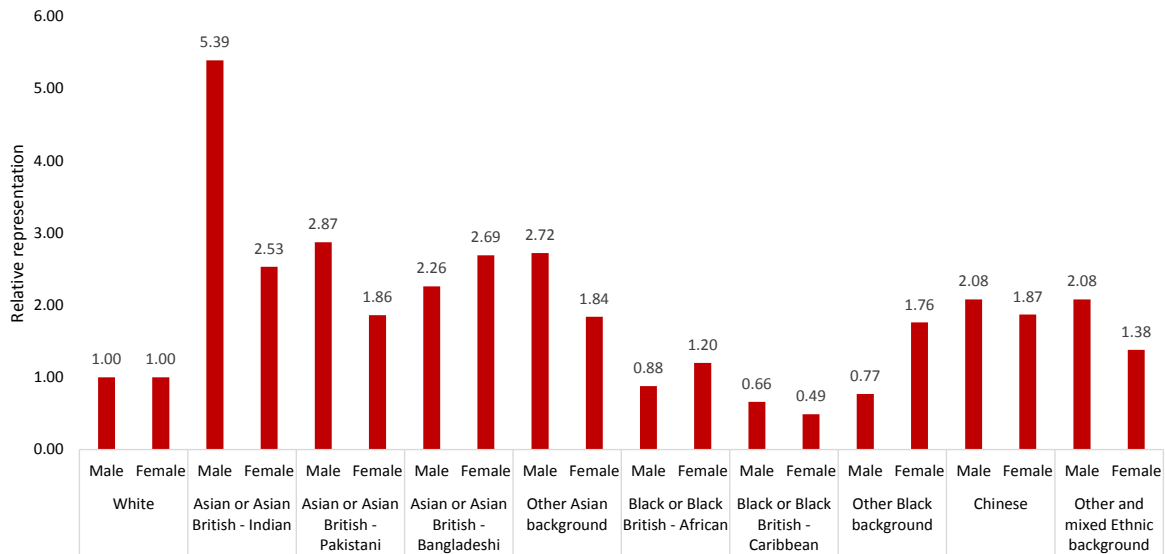


**Figure 2:** Relative representation by ethnic group and gender for UK domiciled masters students in the medicine and dentistry subject group.

The relative representation of masters students in the medicine and dentistry subject group is shown in Figure 2. In general all ethnic gender groups are better represented and Asian groups particularly so. Both male and female Black Caribbean and Other Black female students are underrepresented. 64.9% of White masters graduates are working in STEMM six months after graduation compared to 56.7% of BME graduates: the difference in activities is significant. Similar patterns are observed in all the individual subjects.

The relative representation of doctoral students in the medicine and dentistry subject group is shown in Figure 3. In general Asian ethnic-gender groups are better represented and Black ethnic-gender groups are underrepresented. Male British Indians are particularly well represented at 5.4 time White males.

Overall 60.4% of White graduates are working in STEMM six months after completion, compared to 61.8% of BME graduates. There are some variations at individual subject level, and, although in some cases the number of graduates is not high enough to make firm conclusions, patterns of activity for White and BME graduates are similar.

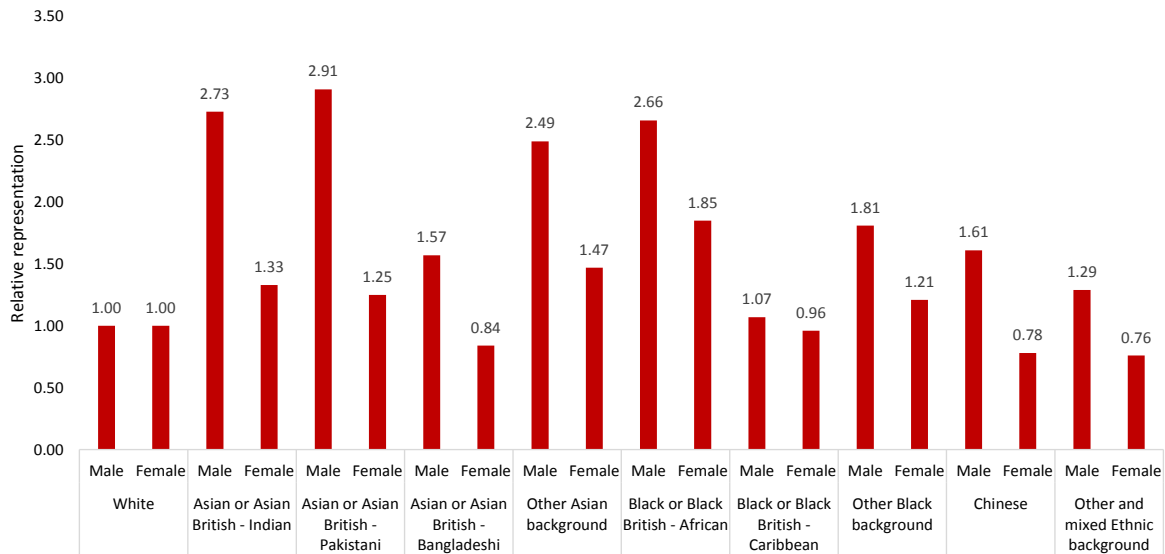


**Figure 3:** Relative representation by ethnic group and gender for UK domiciled doctoral students in the medicine and dentistry subject group.

**In summary,** Asian groups in particular are very well represented among the student body at first degree, masters and doctoral level in **medicine and dentistry** subjects. British Indians are particularly well represented in **pre-clinical dentistry**. Overall White graduates are more likely than BME graduates to be working in STEMM six months after graduation, although at first degree level, over 90% of White and BME graduates are working in STEMM occupations. Lower proportions of graduates are working in STEMM following completing masters or doctoral level qualifications.

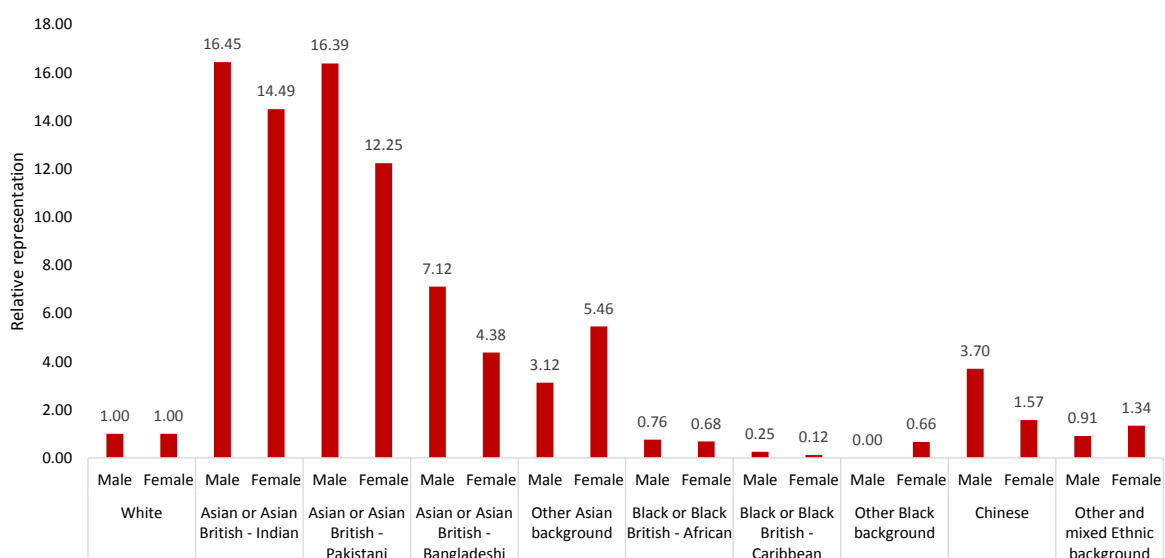
#### Subjects Allied to Medicine

As for the medicine and dentistry subject group, in general, BME ethnic gender groups are better represented than White students in **subjects allied to medicine** as illustrated in Figure 4. Male British Indians, British Pakistanis, other Asians and Black Africans are all over 2.5 times better represented than White males. In fact for each ethnic group, males are better represented than females. There are variations in individual subjects by ethnic gender group representation. For example, British Indians and Pakistanis much more likely to read **ophthalmics** than White students (see Figure 5). **Pharmacology, toxicology & pharmacy** too has high representation from British Indians and Pakistanis.



**Figure 4:** Relative representation by ethnic group and gender for UK domiciled first degrees students in the subjects allied to medicine subject group.

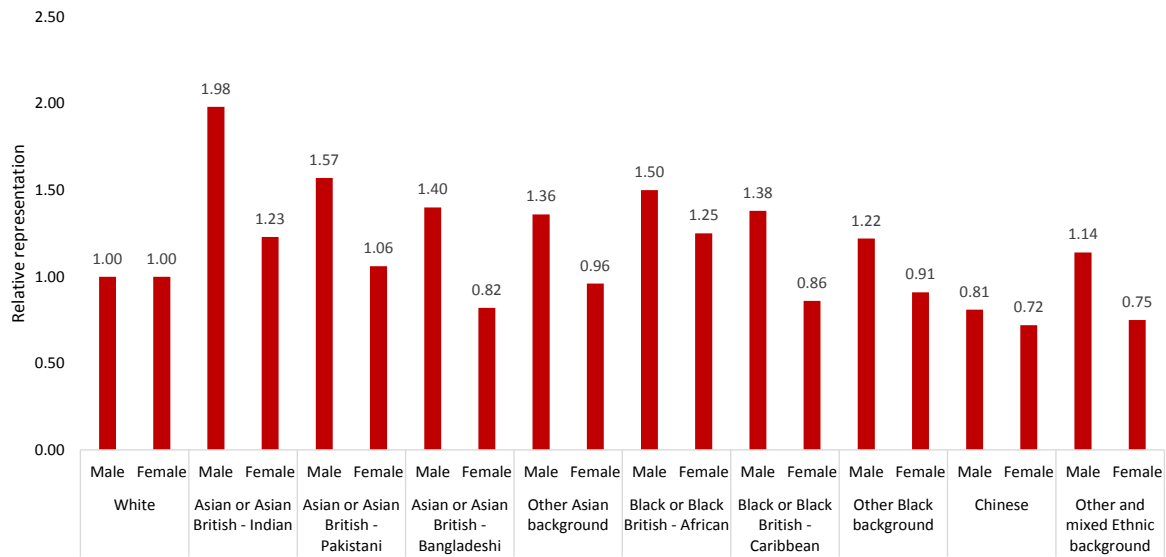
Overall BME first degree graduates are less likely than White graduates to be working STEM occupations six months after graduation: 69.4% of White graduates and 60.3% of BME graduates are in STEM occupations. BME graduates are more likely than White graduates to be undertaking further study or other activities. In **ophthalmics** and **pharmacology, toxicology & pharmacy**, with high BME representation, higher proportions of BME graduates than White graduates are in STEM occupations six months after graduation. However in **anatomy, physiology & pathology** 46.7% of White graduates but only 23.2% of BME graduates are in STEM occupations, 12.9% of White and 29.0% of BME students are undertaking further study on a course, in **medical technology** 85.0% of White graduates and 69.1% of BME graduates are in STEM occupations, in **nutrition** 37.9% of White and 26.0% of BME graduates are in STEM occupations. In nursing too BME graduates are less likely to be in STEM occupations: 88.4% of White and 81.1% of BME graduates are in STEM occupations six months after graduation.



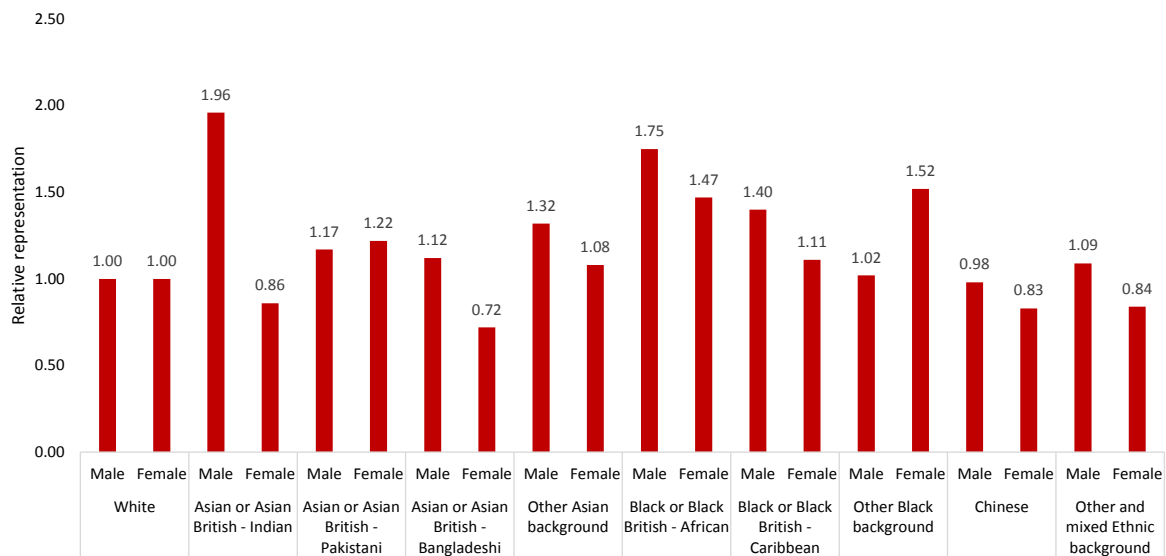
**Figure 5:** Relative representation by ethnic group and gender for UK domiciled first degrees students in ophthalmics.

At masters level (see Figure 6), the majority of ethnic gender groups are better represented than the White male and female groups in the **subjects allied to medicine**, and male ethnic groups tend to more highly represented than female ethnic groups. At individual subject level, as with first degrees, Asians groups are relatively well represented in **ophthalmics** and **pharmacology, toxicology & pharmacy**.

Overall, 64.4% of White and 58.5% of BME masters graduates from masters courses in subjects allied to medicine are in STEMM occupations six months after completing their courses. The pattern of White graduates being more likely to be in STEMM occupations than BME is followed across all the individual subjects (where number of graduates are high enough to warrant comparisons).



**Figure 6:** Relative representation by ethnic group and gender for UK domiciled masters students in the subjects allied to medicine subject group.



**Figure 7:** Relative representation by ethnic group and gender for UK domiciled doctoral students in the subjects allied to medicine subject group.

At doctoral level, following the pattern at first degree and masters level, the majority of ethnic gender groups are better represented than the White male and female groups in the **subjects allied to medicine**, and male ethnic groups tend to more highly represented than female ethnic groups (see Figure 7). At individual subject level, Asians groups are relatively well represented in **ophthalmics**.

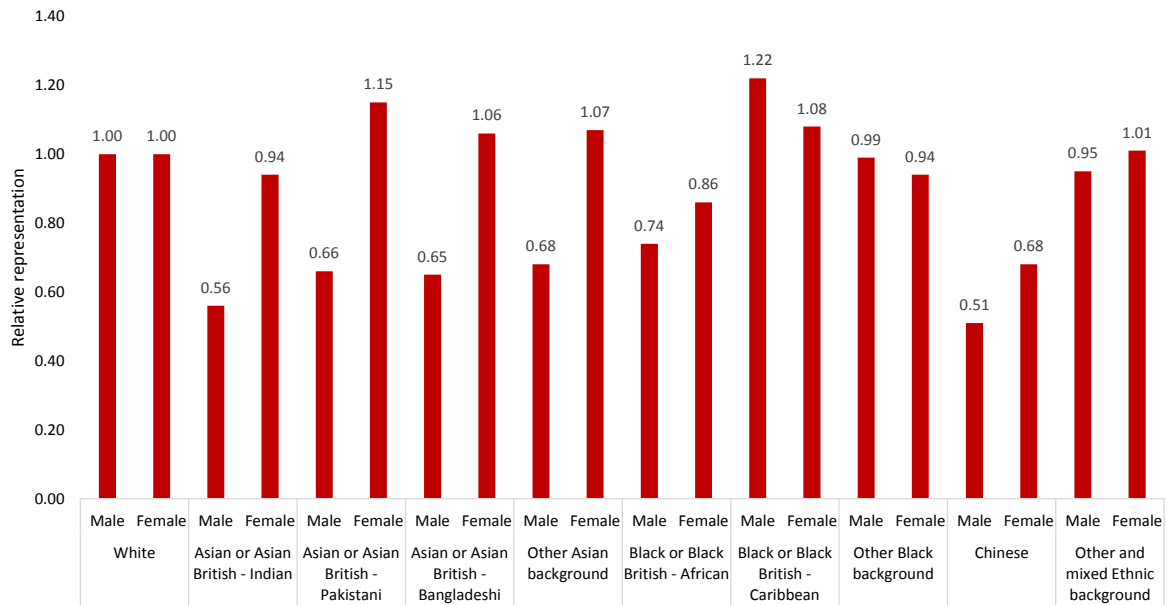
Overall, 44.7% of White and 47.3% of BME doctoral graduates from **subjects allied to medicine** are in STEMM occupations six months after completing their courses. In general numbers of graduates in individual subjects are too low to draw firm conclusions about employment patterns.

**In summary**, high proportions of Asian groups in particular study **ophthalmics** and **pharmacology, toxicology & pharmacy**. At first degree and masters levels across the subject group White graduates are more likely than BME graduates to go into STEMM employment six months after completion of their courses. In **ophthalmics** and **pharmacology, toxicology & pharmacy**, with high BME representation, at first degree level higher proportions of BMEs graduates than White graduates are in STEMM occupations six months after graduation. At doctoral level White and BME students are similarly likely to be in STEMM occupations six months after completion.

#### Biological Sciences

In the **biological sciences** subject group at first degree level in general BME male groups are underrepresented relative to White male students (see Figure 8), and BME female groups are over represented relative to White female students. Chinese students are the least likely to study biological sciences subjects and Black Caribbean students are the most likely. As implied above, among BME groups, the polarisation of the men's and women's likelihood of studying biological sciences appears higher than that among White students. A similar pattern is observed across individual biological science subjects, although it is noticeable that **botany** and **zoology** are particularly unpopular among BME groups.

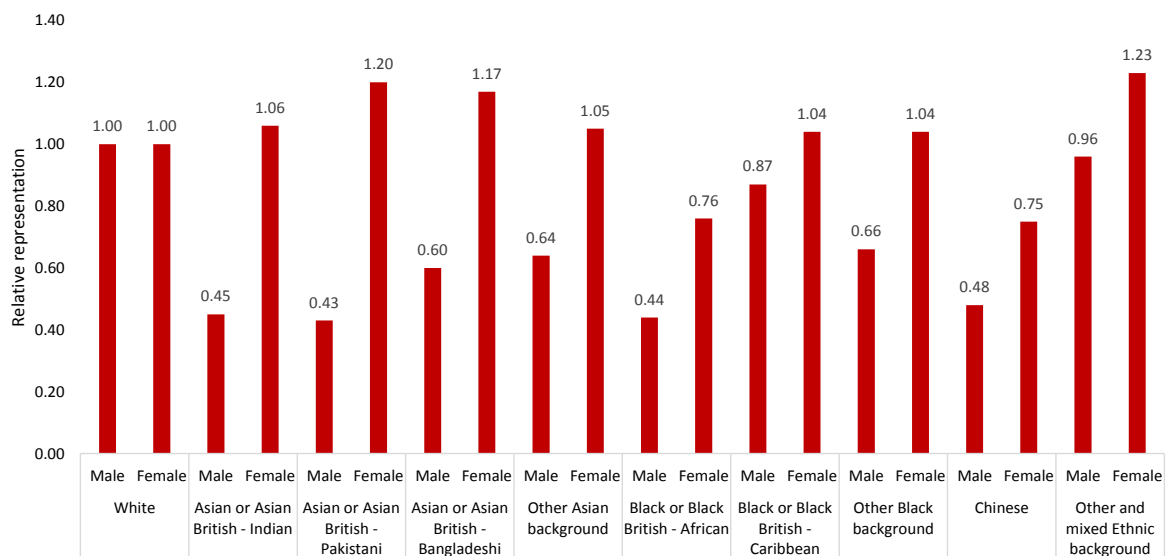
Across the biological sciences subject group BME graduates are slightly less likely to be working in STEMM roles six months after graduation than White graduates, 9.1% and 8.1%, respectively. White graduates are more likely to be working in non-STEMM roles (50.2%) than BME graduates (43.2%). BME graduates are less likely than White graduates to be undertaking research-based further study, but are more likely to be undertaking a further course. At the individual subject level, in general BME graduates are less likely to be working in STEMM than White graduates. For example, in **molecular biology, biophysics & biochemistry** 20.9% of White graduates and 13.9% of BME graduates are working in STEMM occupations six months after graduation. In **biology** the figures are 17.9% of White graduates and 12.0% of BME graduates in STEMM roles, and in **psychology** 6.7% of White graduates and 5.1% of BME graduates are in STEMM roles. Similarly across individual subjects, in general, BME graduates are more likely to be in non-STEMM roles, less likely to be undertaking research-based further study and are more likely to be more likely to be undertaking a further course.



**Figure 8:** Relative representation by ethnic group and gender for UK domiciled first degrees students in the biological sciences subject group.

At masters level (see Figure 9) a similar pattern is observed with male BME groups underrepresented relative to White male students, and BME female groups are over represented relative to White female students.

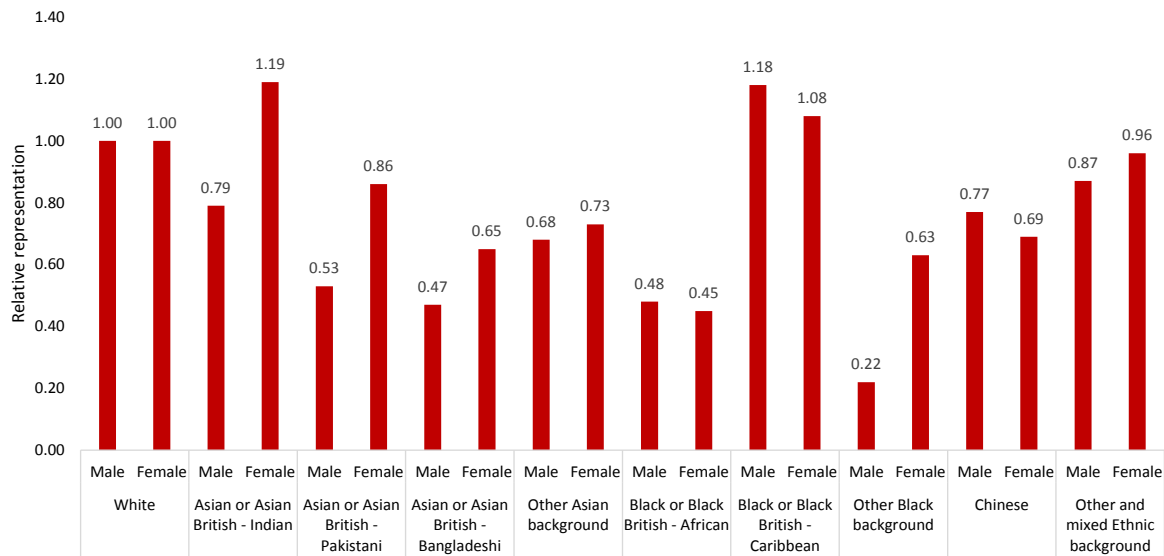
31.2% of White and 30.3% of BME masters graduates are working in STEMM roles six months after completion. In fact, the patterns of graduate occupations are similar although there is a significant difference between the distributions. It is worth noting that BME graduates are less likely to be undertaking research-based further study than White graduates. Across individual subjects, similar patterns are observed although there are some variations.



**Figure 9:** Relative representation by ethnic group and gender for UK domiciled masters students in the biological sciences subject group.



At doctoral level, in general, all ethnic gender groups are underrepresented relative to the male and female White groups, respectively (see Figure 10).



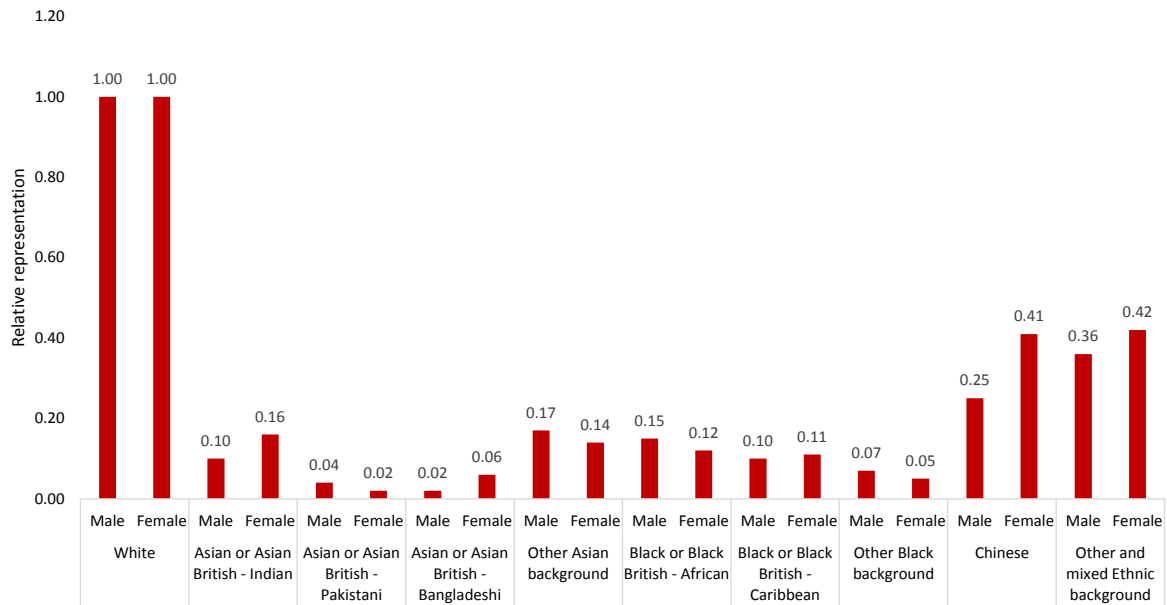
**Figure 10:** Relative representation by ethnic group and gender for UK domiciled doctoral students in the biological sciences subject group.

Six months after completion, 56.5% of White doctoral graduates and 45.1% of BME graduates are in STEMM occupations, and 19.8% of White graduates and 22.0% of BME graduates are in non-STEMM occupations. Numbers of BME graduates at individual subject level are in most cases too low to draw firm conclusions on patterns of occupations.

**In summary**, at first degree and masters level, female BME groups are in general more likely to be studying **biological sciences** than female White students, and male BME groups are in general less likely to be studying **biological sciences** than male White students. At doctoral level, in general all ethnic gender groups are less likely to be studying **biological sciences** than White groups. Among first degree graduates White graduates are more likely to be working in non-STEMM roles than BME graduates. BME graduates are less likely than White graduates to be undertaking research-based further study, but are more likely to be undertaking a further course. At masters level, BME graduates are more likely than White graduates to be in STEMM roles but are less likely to be undertaking research-based further study. At doctoral level, White doctoral graduates are more likely than BME graduates to be in STEMM occupations, and White graduates are less likely than BME graduates to be in non-STEMM occupations. It should be noted that at first degree and masters level BME graduates are less likely than White graduates to be undertaking research-based further study and that more generally overall BME graduates are less likely to be in STEMM-related activities than White graduates.

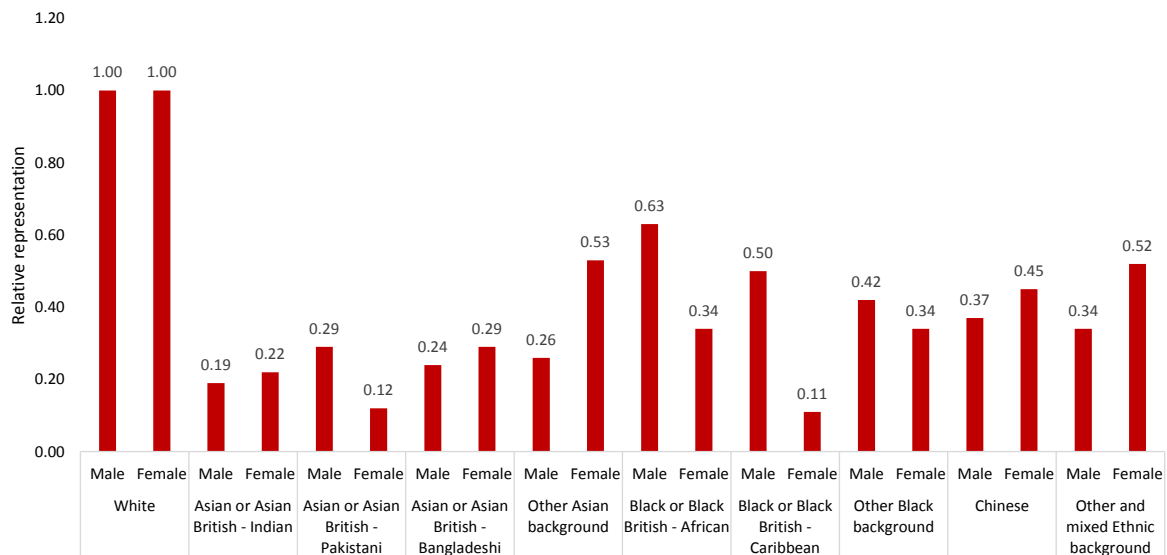
#### Veterinary Sciences, Agriculture and related subjects

At first degree level in the **veterinary sciences, agriculture and related subjects group**, all BME ethnic gender groups are underrepresented compared to the respective male or female White group (see Figure 11). At individual subject level there are some ethnic gender groups that are over represented but it should be noted that number studying subjects in this subject group are relatively low. For example, both male and female British Indians are over represented in pre-clinical veterinary medicine.



**Figure 11:** Relative representation by ethnic group and gender for UK domiciled first degrees students in the veterinary sciences, agriculture and related subjects group.

41.5% of White graduates are working in STEMM occupations six months after graduation compared to 25.3% of BME graduates. A higher proportion of White graduates are in non-STEMM occupations (29.8%) than BME graduates (27.4%). 13.8% of BME graduates are undertaking further study on a course compared to 7.6% of White graduates, and 27.6% of BME graduates are in other activities compared to 14.4% of White graduates. Numbers of BME graduates from many individual subjects are too low to draw firm conclusions, but the indications are that the subject group level patterns of occupations are also followed at subject level.

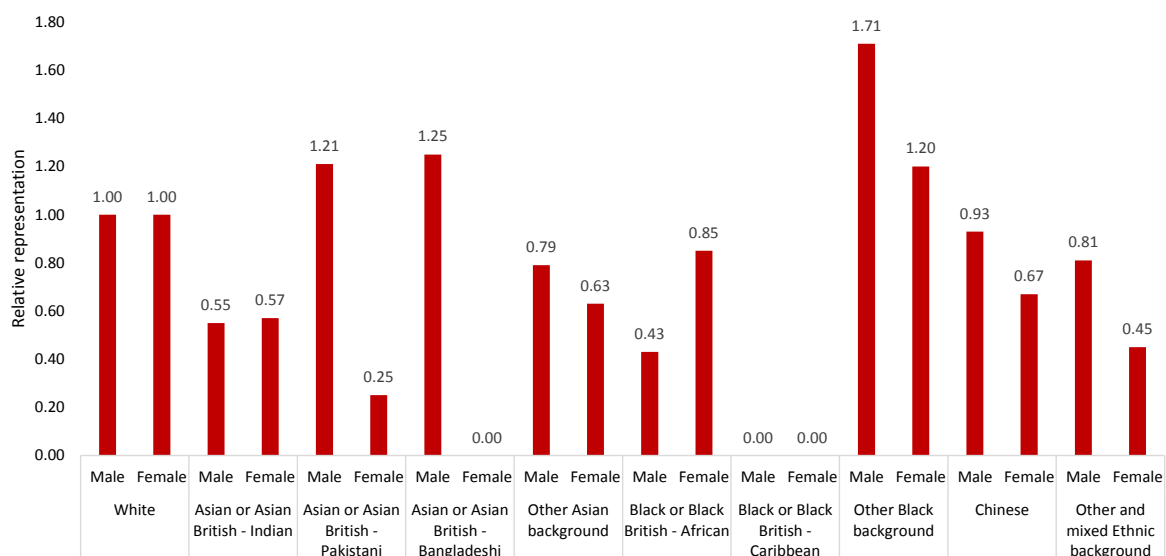


**Figure 12:** Relative representation by ethnic group and gender for UK domiciled masters students in the veterinary sciences, agriculture and related subjects group.

Like the representation at first degree level, all ethnic gender groups are underrepresented at masters level, albeit numbers in any one particular ethnic gender group are low (see Figure 12). Patterns of occupations six months after graduation are similar for White and BME graduates, with

41.0% of White and 41.9% of BME graduates in STEMM occupations. Numbers of BME graduates in any one particular subject are too low to comment on occupations six months after graduation.

At doctoral level there is some variation in the representation of BME ethnic gender groups compared to White groups, with some groups over represented and other underrepresented but the numbers studying at this level are too low to draw any conclusions (see Figure 13). Similarly the low numbers mean that it is not possible to draw any conclusions on patterns of occupations.



**Figure 13:** Relative representation by ethnic group and gender for UK domiciled doctoral students in the veterinary sciences, agriculture and related subjects group.

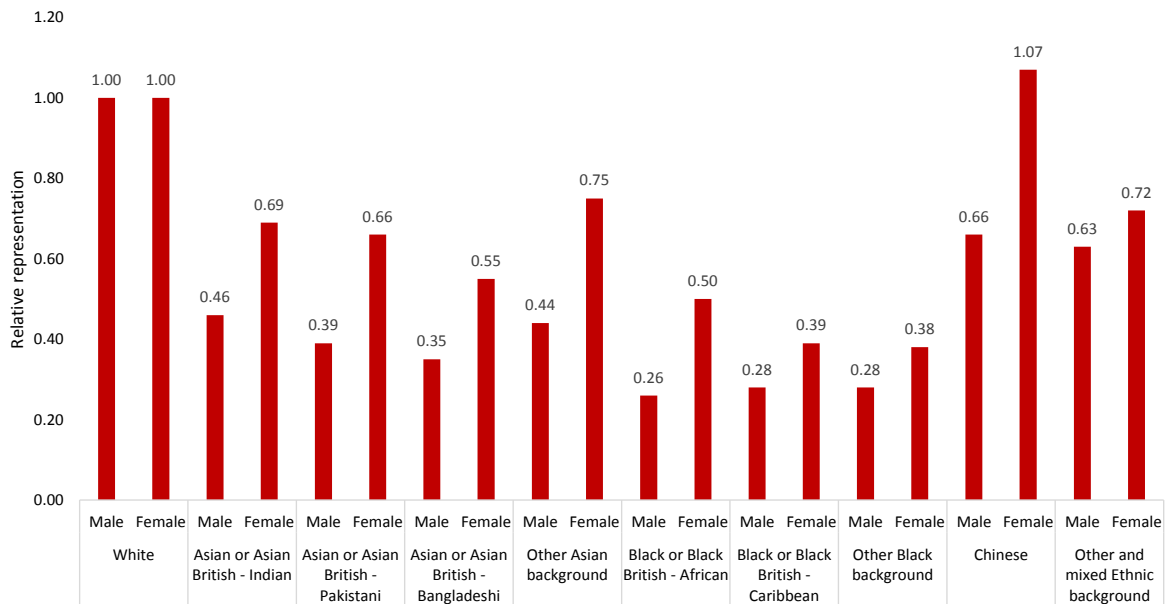
**In summary,** BME students are less likely than White students to be studying **veterinary sciences, agriculture and related subjects** albeit at masters and doctoral level numbers of BME students are too low to draw firm conclusions. At first degree level subject White graduates are more likely to be working in STEMM occupations six months after graduation than BME graduates.

### Physical Science

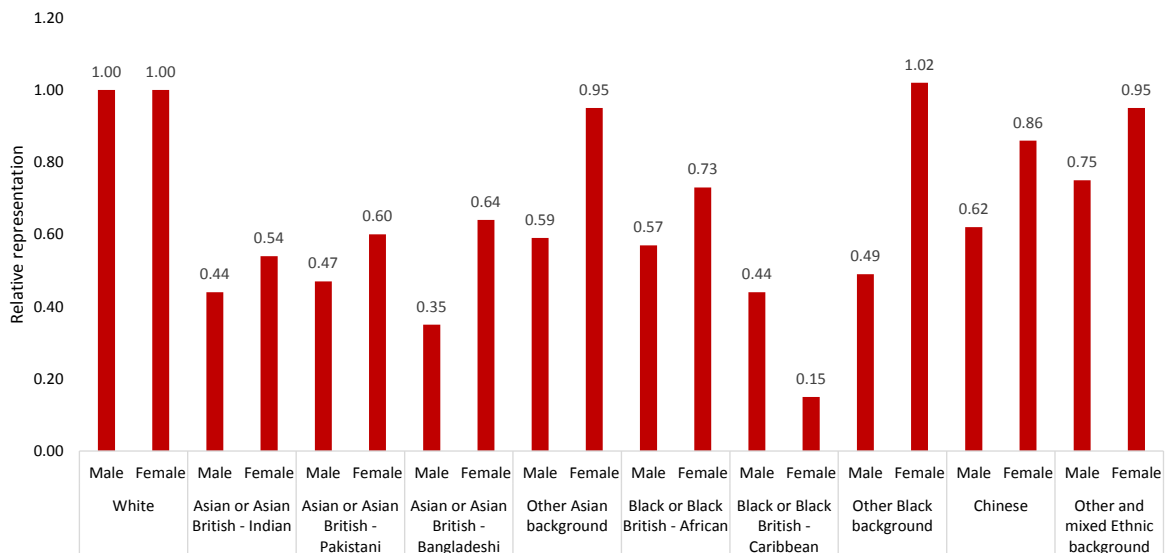
Across all **physical sciences** subjects in general BME ethnic gender groups are less likely to be studying at first degree level than male or female White students (see Figure 14), respectively. There are variations at the individual subject level. In **physics, geology** and **astronomy**, virtually all ethnic gender groups are underrepresented. The exception is in **physics**, where the representation of British Indian women is in line with White women, and Chinese women are over represented compared to White women. In **chemistry**, female Asian groups are in general over represented compared to White women, and male Asian groups are underrepresented compared to White men. More generally, female BME groups are better represented than male BME groups. In **forensic science** representation is more even across all ethnic gender groups, and in **material science** there is a good deal of variation in relative representation by ethnic gender group.

Across all **physical science** subjects, 17.5% of White graduates and 13.8% of BME graduates are in STEMM occupations six months after graduation. 32.6% of White graduates are in non-STEMM occupations compared to 28.9% of BME graduates, 11.3% of White graduates and 9.5% of BME graduates are undertaking research-based further study, 17.1% of White graduates and 19.7% of BME graduates are undertaking a course of further study, and 17.1% of White graduates and 23.8% of BME graduates are undertaking other activities. Overall White graduates are more likely to be in

STEMM activities than BMEs graduates. At the individual subject level, in all cases White graduates are more likely to be working in STEMM occupations than BME graduates, and less likely to be undertaking research-based further. In all cases except BME graduates are less likely to undertaking STEMM activities than White graduates six months after graduation. It does not follow that in all cases BME graduates are more likely to be undertaking non-STEMM work, but in general BME graduates are more likely to be undertaking a course of further study or undertaking other activities.



**Figure 14:** Relative representation by ethnic group and gender for UK domiciled first degrees students in the physical sciences subject group.



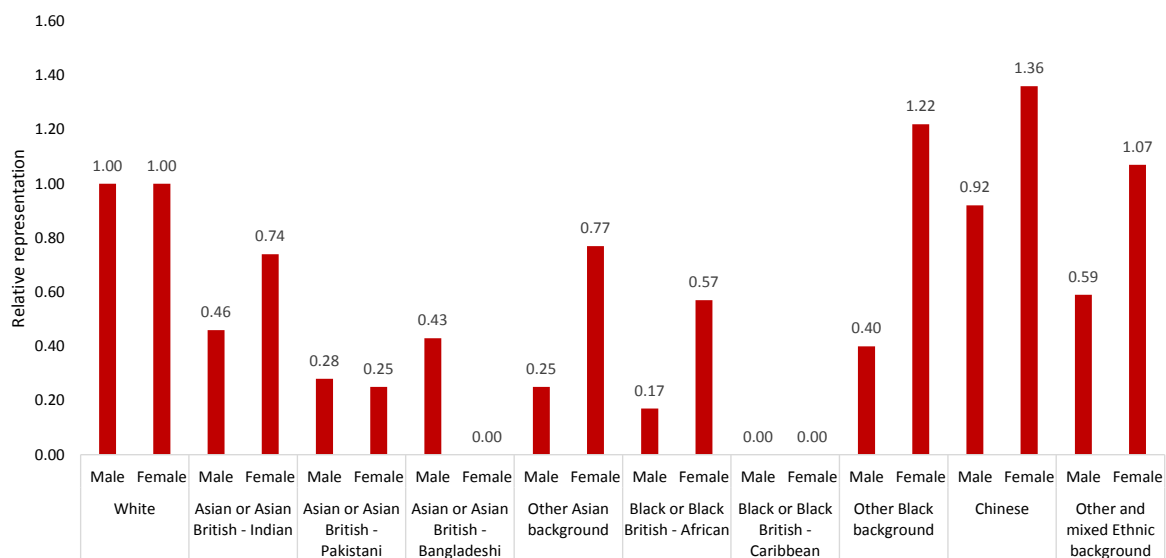
**Figure 15:** Relative representation by ethnic group and gender for UK domiciled master students in the physical sciences subject group.

At masters level, with one exception, all ethnic gender groups are underrepresented compared to the White male and female groups (see Figure 16). Overall female groups are better represented

than male BME groups. There are variations by individual subject although numbers of students in any one ethnic gender group are generally too low to draw any firm conclusions.

Across all physical science subjects, 40.5% of White graduates and 32.2% of BME masters graduates are in STEMM occupations six months after graduation. 23.3% of White graduates are in non-STEMM occupations compared to 21.4% of BME graduates, 13.9% of White graduates and 13.8% of BME graduates are undertaking research-based further study, and 12.8% of White graduates and 25.0% of BME graduates are undertaking other activities. As for first degree graduates, overall White masters graduates are more likely to be in STEMM activities than BME graduates. At the individual subject level, patterns of activity on graduation do vary, but in all cases where numbers of graduates are high enough to allow comparisons, White graduates are more likely to be STEMM activities than BME graduates.

At doctoral level in the physical science subjects, the majority of ethnic gender groups are underrepresented compared to male and female White students. Across all physical science doctoral subjects, 50.9% of White graduates and 41.6% of BME doctoral graduates are in STEMM occupations six months after graduation, 9.7% of White graduates and 11.6% of BME graduates are working in occupations which are possibly STEMM, 25.9% of White graduates are in non-STEMM occupations compared to 22.0% of BME graduates, and 9.9% of White graduates and 20.4% of BME graduates are undertaking other activities. Where numbers of graduates are great enough, at the individual subject levels patterns of activity are broadly similar with BME graduates less likely to be in STEMM activities than White graduates. In the majority of subjects though, the numbers of BME graduates are not great enough to allow comparison with the White graduate populations.



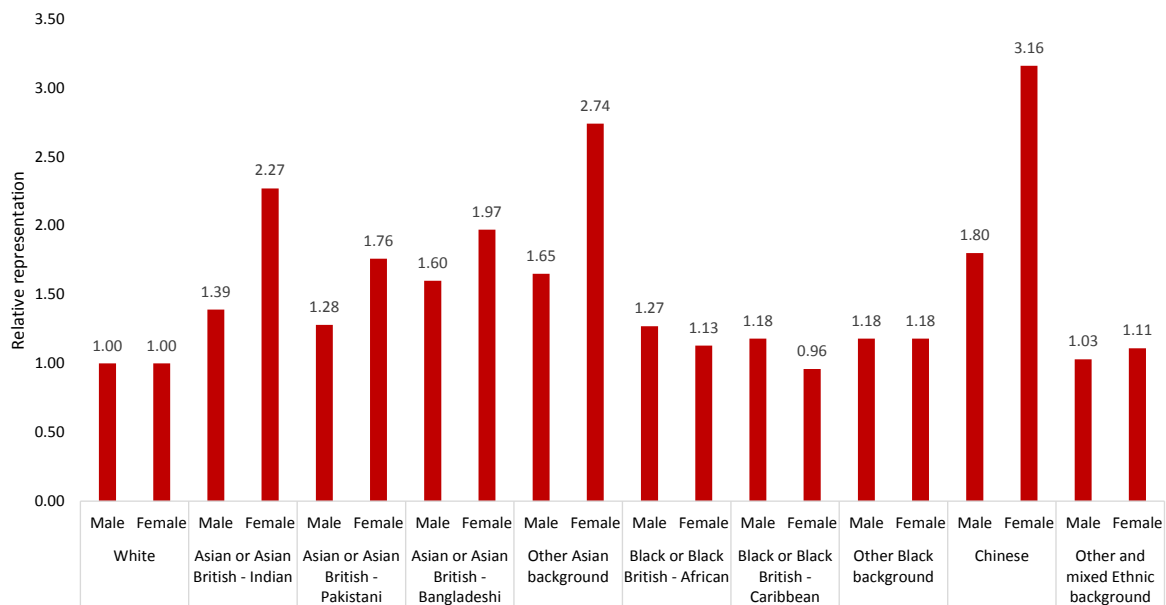
**Figure 16:** Relative representation by ethnic group and gender for UK domiciled doctoral students in the physical sciences subject group.

**In summary**, across all **physical sciences** subjects in general BME ethnic gender groups are less likely studying at first degree level than male or female White students, respectively. Overall White first degree graduates are more likely to be in STEMM activities than BMEs graduates. At masters level, with one exception, all ethnic gender groups are underrepresented compared to the White male and female groups. As for first degree graduates, overall White masters graduates are more likely to be in STEMM activities than BMEs graduates. At doctoral level in the **physical sciences** subjects, the majority of ethnic gender groups are underrepresented compared to male and female White

students. At the individual subject levels patterns of activity do vary such that in **chemistry** BME doctoral graduates are more likely than White graduates to be in STEMM activities, but in **physics**, BME graduates are less likely to be in STEMM activities than White graduates. In the majority of subjects though, the numbers of BME doctoral graduates are not great enough to allow comparison with the White doctoral graduate populations.

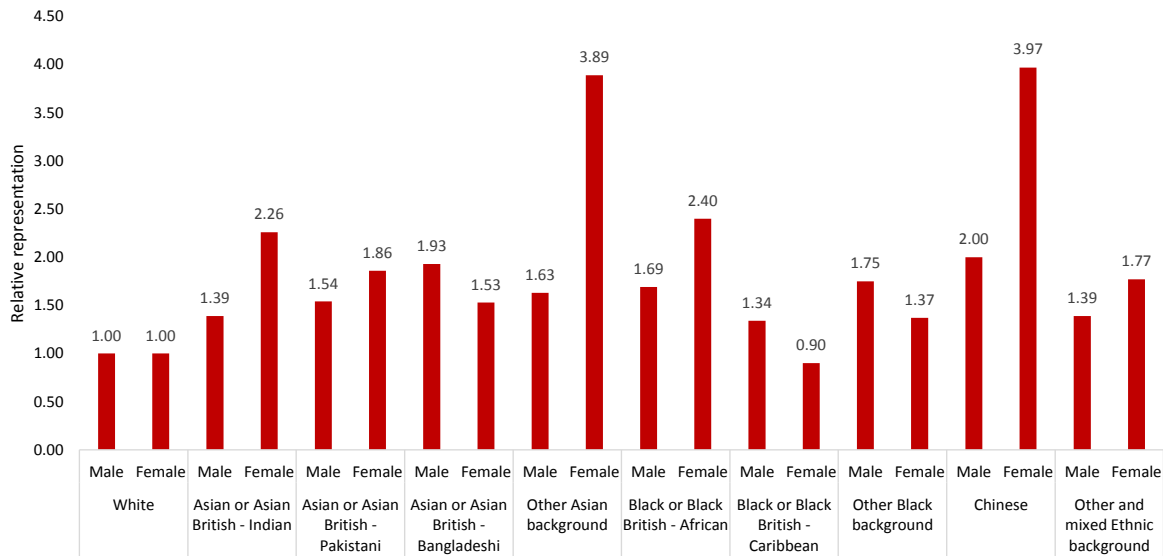
### Mathematical and Computer Sciences

All but one BME ethnic gender groups are over represented relative to male and female White groups, respectively, in the **mathematical and computer science subject group** at first degree level (see Figure 17). In particular British Indian females and Chinese females are over represented relative to White female students. Representation varies from subject to subject. In **mathematics**, Asian and Chinese groups are over represented, while Black groups are underrepresented. In **computer science**, all BME groups are over represented relative to White male and female groups, respectively. The same is observed for **information systems**, and also for **software engineering** excepting that British Indian males are underrepresented. The pattern is much more variable for **statistics** although notably both male and female Chinese students are much more represented than other ethnic gender groups.



**Figure 17:** Relative representation by ethnic group and gender for UK domiciled first degrees students in the mathematical and computer sciences subject group.

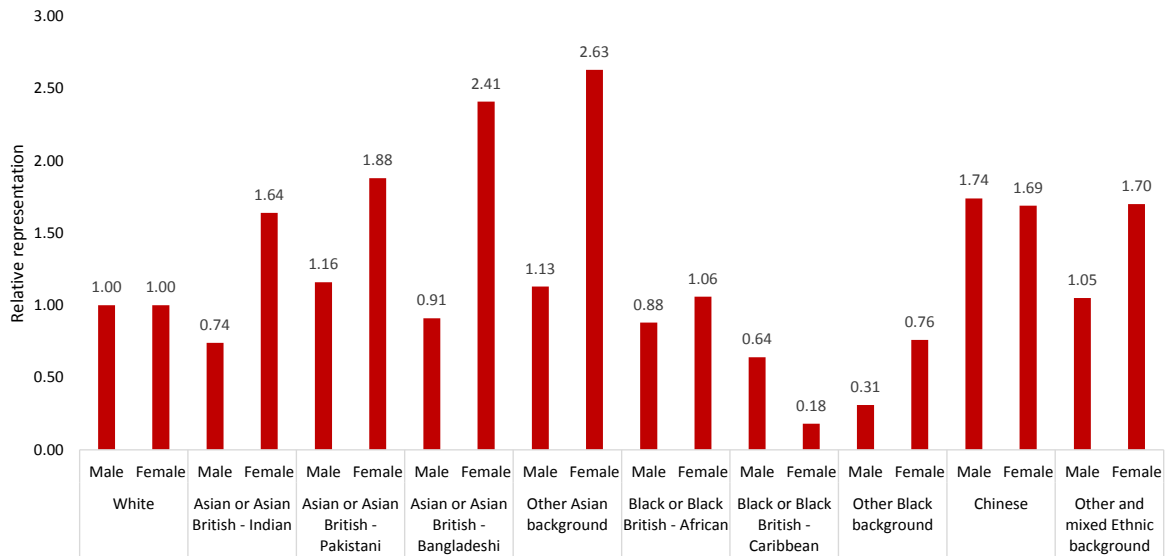
Across all **mathematical and computer sciences subjects** at first degree level, 32.0% of White and 19.4% of BME are working in STEMM occupations six months after completing courses, and 29.0% of White and 31.8% of BME graduates are in non-STEMM occupations. 3.2% of White graduates and 1.2% of BME graduates go on to research-based further study, and, 11.3% of White and 14.6% of BME graduates are in further study on a course. 18.2% of White graduates and 28.0% of BME graduates are undertaking other activities. Overall White graduates are more likely to be in STEMM activities than BMEs graduates six months after completion. Similar patterns are observed across individual subjects where in all cases White graduates are more likely than BME graduates to be working in STEMM occupations, or undertaking research-based further study.



**Figure 18:** Relative representation by ethnic group and gender for UK domiciled masters students in the mathematical and computer sciences subject group.

At masters level in mathematical and computer sciences subjects (see Figure 18) all except one ethnic gender groups are over represented compared to male and female White students, respectively. Considering activities six months after graduation, 42.7% of White and 34.5% of BME graduates are working in STEMM occupations, 18.5% of White graduates and 25.5% of BME graduates are working in non-STEMM occupations, 11.1% of White graduates and 4.4% of BME graduates are undertaking research-based further study, and 15.0% of White and 26.0% of BME graduates are undertaking other activities. Overall White graduates are more likely to be undertaking STEMM-related activities than BME graduates. At the individual subject level, where numbers are great enough to allow comparisons, BME graduates are less likely to be undertaking STEMM activities than White graduates. For example, in **computer science**, 49.8% of White masters graduates are working in STEMM occupations compared to 37.3% of BME graduates and in **software engineering** 62.9% of White graduates, and, 35.3% of BME graduates are working in STEMM occupations. There is less difference in **information systems** graduates, with 43.3% of White graduates and 36.7% of BME graduates working in STEMM occupations.

At doctoral level there is some variation by ethnic gender group representation but the numbers in each individual group is relatively small so it is difficult to draw firm conclusions (Figure 19). Similarly, it is difficult to draw too many conclusions on the graduate activities of doctoral students. However, at the subject group level, 40.5% of White and 40.9% of BME graduates are working in STEMM occupations, 27.5% of White graduates and 18.9% of BME graduates are working in non-STEMM occupations, and 10.1% of White and 20.1% of BME graduates are undertaking other activities. Overall 42.6% of White graduates and 43.4% of BME graduates are undertaking STEMM activities.



**Figure 19:** Relative representation by ethnic group and gender for UK domiciled doctoral students in the mathematical and computer sciences subject group.

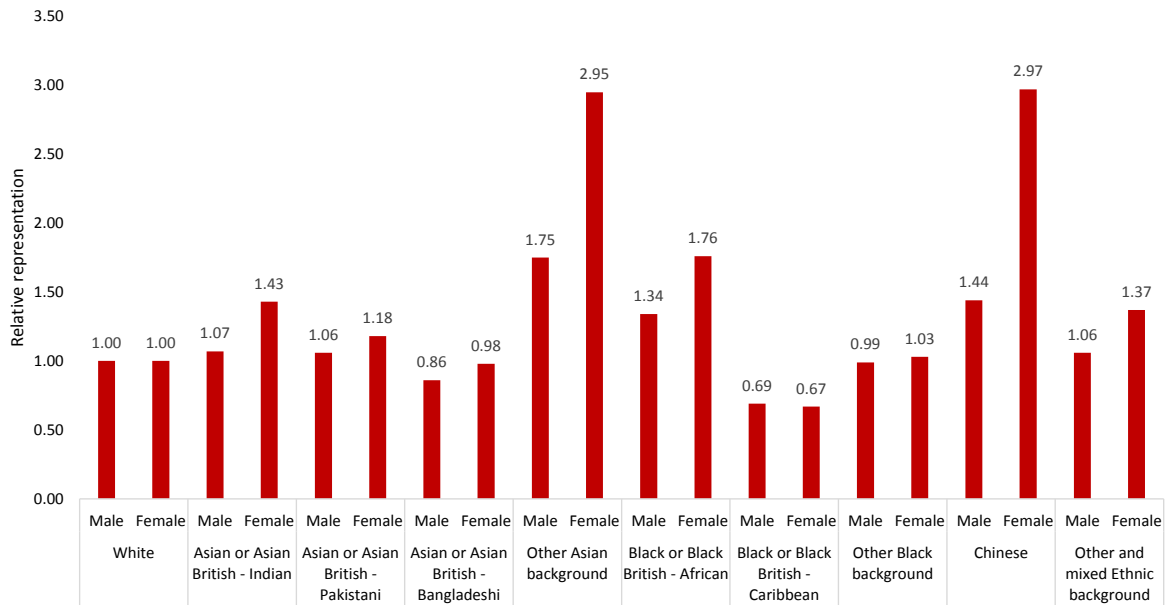
**In summary**, all but one BME ethnic gender groups are over represented relative to male and female White groups, respectively, in the **mathematical and computer sciences subject group** at first degree level, but representation varies from subject to subject. White graduates are more likely to be in STEMM activities than BMEs graduates six months after completion. Similar patterns are observed across individual subjects where in all cases White graduates are more likely than BME graduates to be working in STEMM occupations, or undertaking research-based further study. At masters level in **mathematical and computer sciences** subjects all except one ethnic gender groups are over represented compared to male and female White students, respectively, and, like first degree graduates, White masters graduates are more likely to be undertaking STEMM-related activities than BME masters graduates. At doctoral level there is some variation by ethnic gender group representation but the numbers in each individual group are relatively small so it is difficult to draw firm conclusions. Similarly, it is difficult to draw too many conclusions on the graduate activities of doctoral students, although similar proportions of White and BME graduates are working in STEMM occupations.

### Engineering

There is some variation in the representation of ethnic gender groups in engineering first degrees overall (see Figure 20). British Asian groups vary in their representation with British Indians over represented relative to male and female White students, respectively, British Pakistani students represented about the same as White students and British Bangladeshi students under represented. Other Asian groups are over represented. There is similar variation in the representation of Black groups, and the Chinese groups are over represented. For the most part female BME groups are relatively better represented compared to White females than male BME groups are compared to White males.

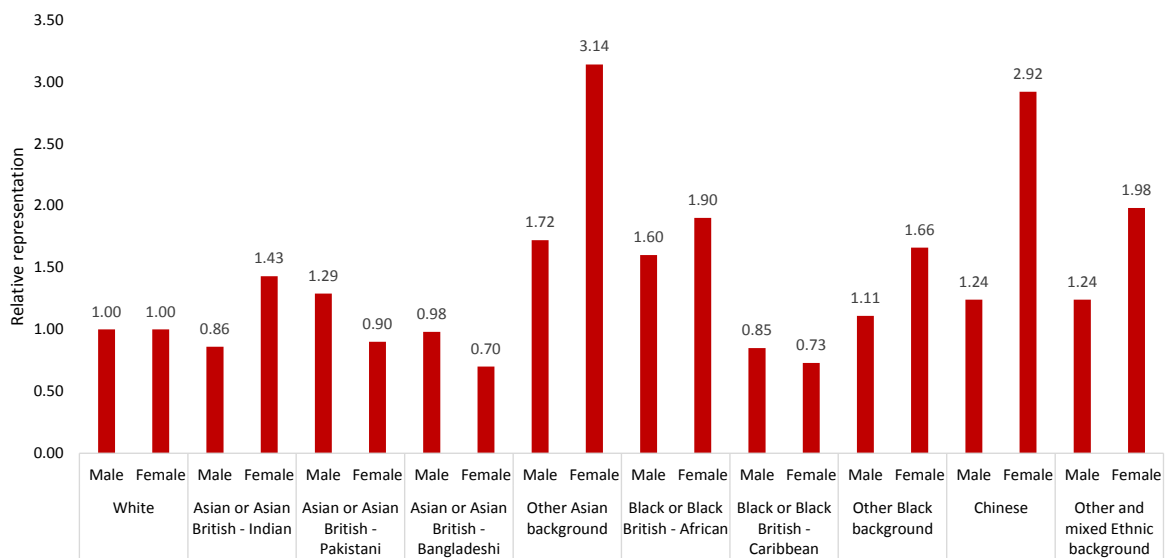
Relative representation varies from individual subject to subject. In **electronic & electrical engineering** all BME ethnic gender groups are over represented compared to male and female White groups, respectively. Similarly, in **chemical engineering** all BME ethnic gender groups, except Black Caribbean are over represented. In **civil engineering, mechanical engineering, and production engineering** the relatively representation varies.





**Figure 20:** Relative representation by ethnic group and gender for UK domiciled first degrees students in the engineering subject group.

Across all engineering disciplines at first degree level, 50.6% of White and 26.5% of BME are working in STEMM occupations six months after completing courses, and 18.0% of White and 22.0% of BME graduates are in non-STEMM occupations. 3.9% of White graduates and 3.7% of BME graduates go on to research-based further study, and 7.1% of White and 17.0% of BME graduates are in further study on a course. 15.5% of White graduates and 27.4% of BME graduates are undertaking other activities. Overall White graduates are more likely to be in STEMM activities than BMEs graduates six months after completion, 54.5% and 30.2%, respectively. The same pattern is observed across all the individual subjects where in all cases White graduates are more likely than BME graduates to be working in STEMM occupations, or undertaking research-based further study.



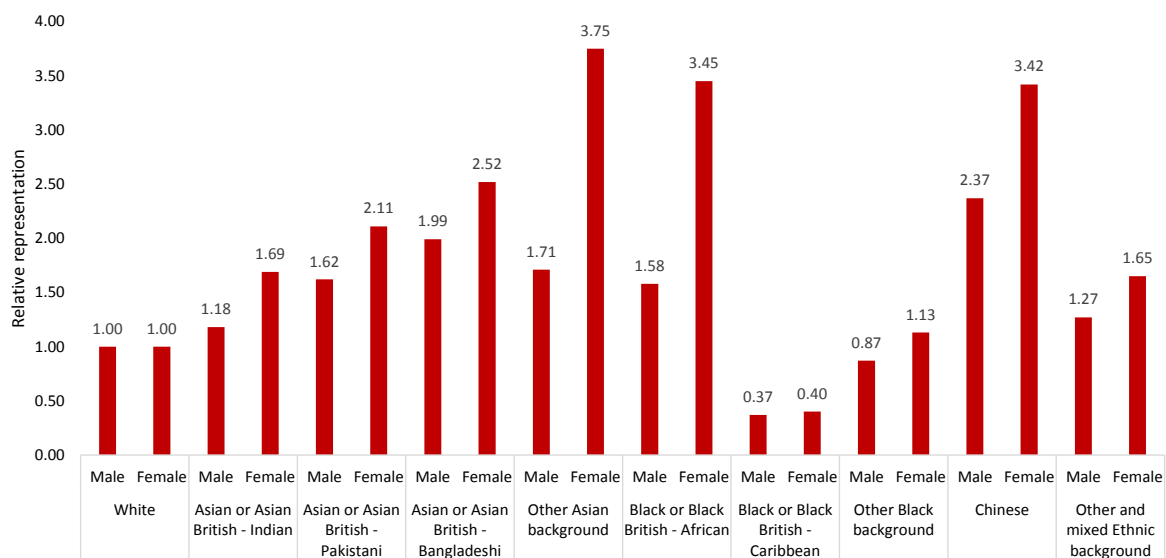
**Figure 21:** Relative representation by ethnic group and gender for UK domiciled masters students in the engineering subject group.

Like first degrees, there is variation in the representation of ethnic gender groups in engineering masters courses (Figure 21), but there is no clear pattern. Representation in individual subjects varies. As with first degrees, in **electronic & electrical engineering** all ethnic gender are over represented relative to the male and female White groups. In all other subjects, representation does vary from ethnic gender group to group and there are no clear patterns.

Across all engineering disciplines at masters level, 54.8% of White and 39.7% of BME graduates are working in STEMM occupations six months after completing courses, and 15.9% of White and 18.7% of BME graduates are in non-STEMM occupations. 6.6% of White graduates and 7.7% of BME graduates go on to research-based further study and 11.7% of White graduates and 27.3% of BME graduates are undertaking other activities. Overall White graduates are more likely to be in STEMM activities than BMEs graduates six months after completion, 61.5% and 47.4%, respectively. Similar patterns are observed across all the individual subjects where in all cases White graduates are more likely than BME graduates to be working in STEMM occupations.

Like first degrees and masters courses, there is variation in the representation of ethnic gender groups in engineering doctoral courses (see Figure 22), with the majority of ethnic gender groups over represented compared to male and female White groups. Representation in individual subjects varies but numbers in individual ethnic gender groups are too low to draw firm conclusions.

Across all engineering disciplines at doctoral level, the patterns of activity for White and BME graduates six months after completion are more similar than the patterns at first degree or masters level. Nonetheless, BME graduates are less likely to be in STEMM activities than White graduates. 56.8% of White and 53.0% of BME graduates are working in STEMM occupations six months after completing courses, 21.9% of White and 19.2% of BME graduates are in non-STEMM occupations, and 9.3% of White graduates and 16.7% of BME graduates are undertaking other activities. Numbers of BME graduates in individual subjects are too small to draw any firm conclusions.



**Figure 22:** Relative representation by ethnic group and gender for UK domiciled doctoral students in the engineering subject group.

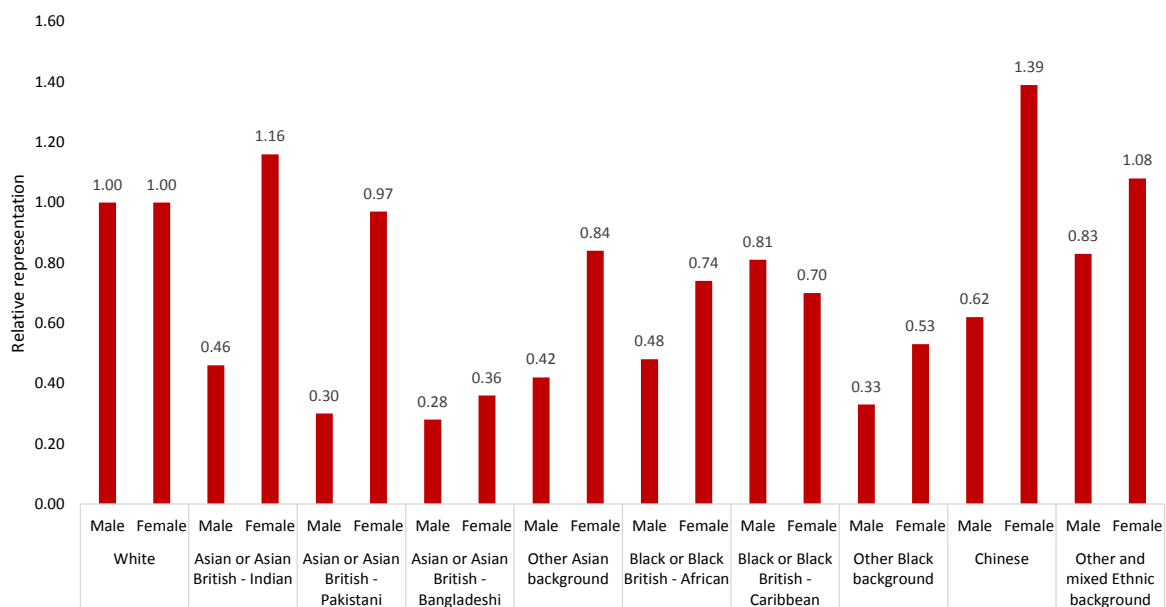
**In summary**, there is some variation in the representation of ethnic gender groups in **engineering** first degrees overall and for the most part female BME groups are relatively better represented compared to White females than male BME groups are compared to White males. Overall White first degree graduates are more likely to be in STEMM activities than BMEs graduates six months

after completion, 54.5% and 30.2%, respectively. The same pattern is observed across all the individual subjects where in all cases White graduates are more likely than BME graduates to be working in STEM occupations, or undertaking research-based further study. Like first degrees, there is variation in the representation of ethnic gender groups in engineering masters courses, but there is no clear pattern. White masters graduates are more likely to be in STEM activities than BMEs graduates six months after completion and similar patterns are observed across all the individual subjects where in all cases White graduates are more likely than BME graduates to be working in STEM occupations. There is also variation in the representation of ethnic gender groups in engineering doctoral courses, with the majority of ethnic gender groups over represented compared to male and female White groups. Across all engineering disciplines at doctoral level, the patterns of activity for White and BME graduates six months after completion are more similar than the patterns at first degree or masters level. Nonetheless, BME graduates are less likely to be in STEM activities than White graduates.

### Technologies

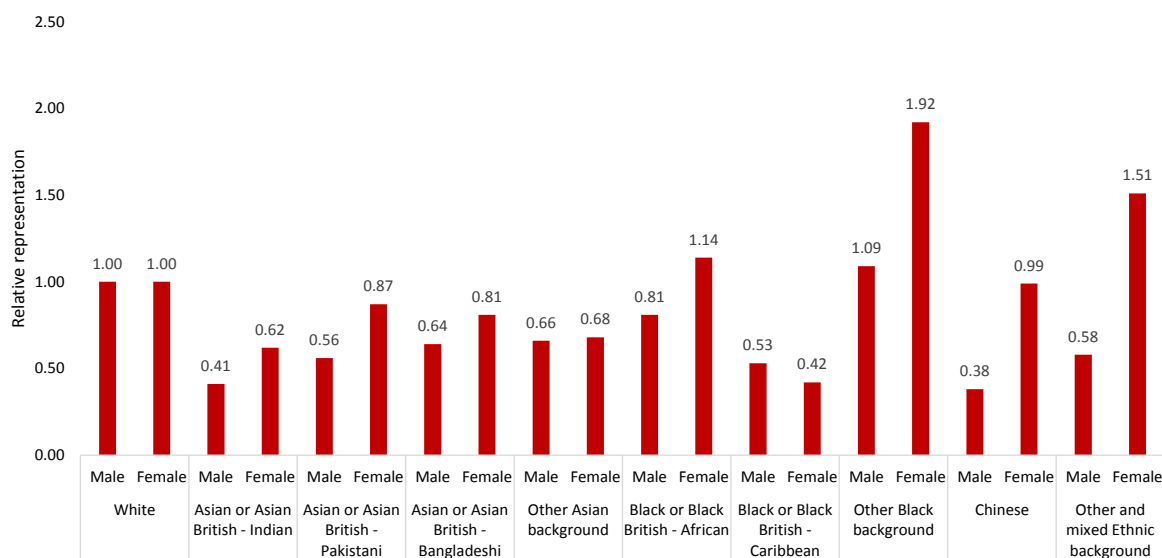
In general, BME students are less likely to be reading first degree courses in the **technology** subject group than White students (see Figure 23). For most BME groups the female students are better represented relative to White females than male BME groups are relative to White males. As with other subject groups, patterns of representation vary by individual subject but there are no clear patterns.

There are few differences in the patterns of activity of White and BME graduates from **technology** courses. Relatively low proportions of both men and women are working in STEM occupations six months after completing first degree courses, 19.7% of White graduates and 13.4% of BME graduates. Overall 61.8% of White and 63.0% of BME graduates are undertaking non-STEM activities six months after graduation. At individual subject level, in general, White graduates are more likely to be working in STEM occupations than BME graduates and BME graduates are more likely to be undertaking course-based further study than White graduates.



**Figure 23:** Relative representation by ethnic group and gender for UK domiciled first degree students in the technology subject group.

At masters level in the **technology** subject group BME students are less likely to be studying than White students (see Figure 24). Numbers of BME students at individual subject level are too low to draw firm conclusions on the popularity of individual technology subjects by ethnic group.



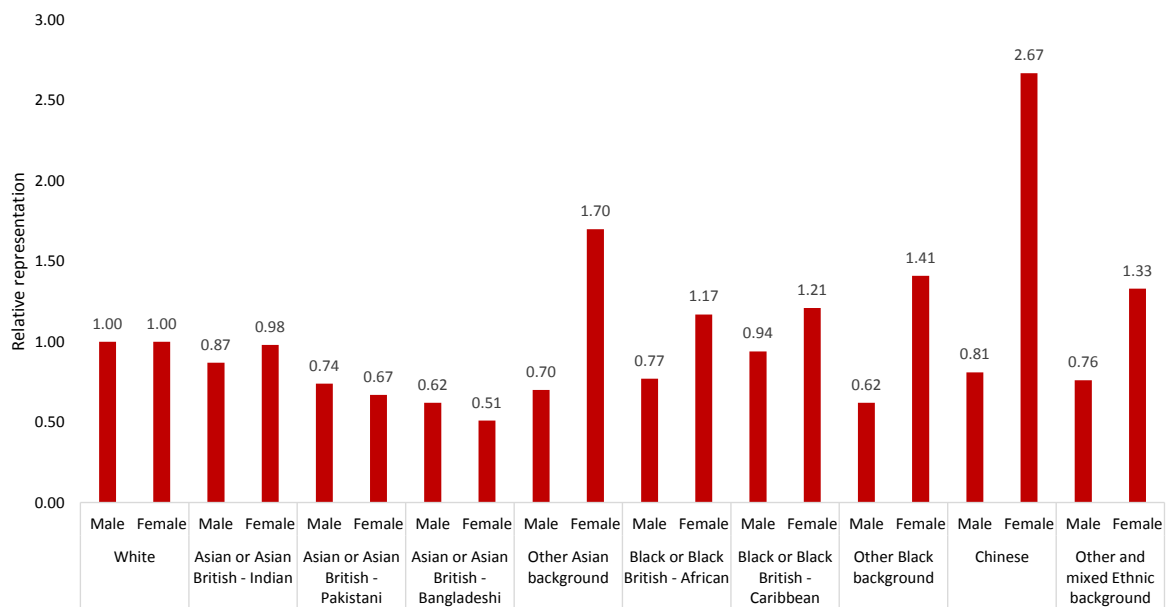
**Figure 24:** Relative representation by ethnic group and gender for UK domiciled masters students in the technology subject group.

Across all **technology** disciplines at masters level, 35.4% of White and 28.6% of BME are working in STEMM occupations six months after completing courses, and 28.9% of White and 29.5% of BME graduates are in non-STEMM occupations. 6.5% of White graduates and 6.0% of BME graduates go on to research-based further study, and 2.3% of White and 5.1% of BME graduates are in further study on a course. 16.1% of White graduates and 24.4% of BME graduates are undertaking other activities. Overall White graduates are more likely to be in STEMM activities than BMEs graduates six months after completion, 41.9% and 34.6%, respectively. Numbers of BME graduates at individual subject level are generally too low to be able to draw any firm conclusions on the relative popularity of technology subjects by ethnic group.

The numbers of BME doctoral graduates from **technology** courses are too low to draw any firm conclusions on their relative popularity, or on differences in the patterns of activities of graduates from doctoral courses.

**In summary**, BME students are less likely to be reading first degree courses in the **technology** subject group than White students. There few differences in the patterns of activity of White and BME graduates from **technology** courses. Relatively low proportions of both men and women are working in STEMM occupations six months after completing first degree courses, 19.7% of White graduates and 13.4% of BME graduates, and, overall 61.8% of White and 63.0% of BME graduates are undertaking non-STEMM activities six months after graduation. At masters level in the **technology** subject group BME students are less likely to be studying than White students. Overall White masters graduates are more likely to be in STEMM activities than BMEs graduates six months after completion, 41.9% and 34.6%, respectively. The numbers of BME doctoral graduates from **technology** courses are too low to draw any firm conclusions.

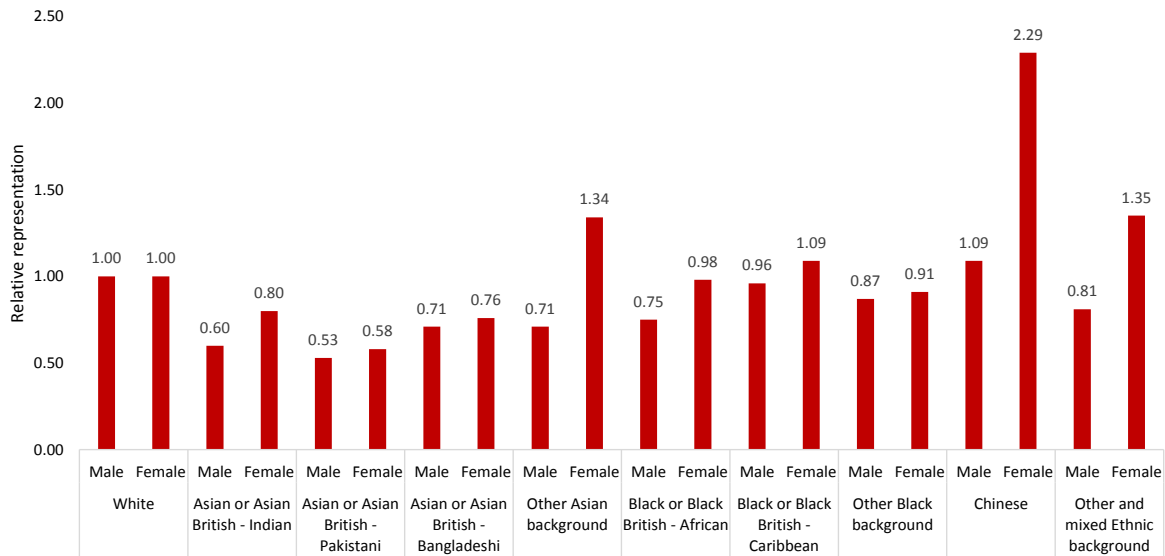
## Architecture, Building and Planning



**Figure 25:** Relative representation by ethnic group and gender for UK domiciled first degrees students in the architecture, building and planning subject group.

In general, Asian students are less likely to be reading first degree courses in the **architecture, building and planning** subjects than White students (see Figure 25). Among Black and Chinese ethnic gender groups, females are relatively over represented compared to White females, and males are underrepresented relative to White males. Patterns are similar in individual subjects. In **architecture** most ethnic gender groups have similar relative popularity as their male and female White counterparts. **Architecture** is particularly popular among Chinese groups.

There are differences in the patterns of activity of White and BME graduates from **architecture, building and planning** courses. 41.6% of White graduates and 25.3% of BME graduates are working in STEMM occupations six months after completing first degree courses, 24.6% of White and 27.9% of BME graduates are working in non-STEMM occupations, 9.5% of White and 10.8% of BME graduates are undertaking course-based further study, and 15.9% of White and 28.9% of BME graduates are undertaking other activities. Overall 42.0% of White and 25.6% of BME graduate are undertaking STEMM activities six months after graduation. At individual subject level, in general, White graduates are more likely to be working in STEMM occupations than BME graduates.



**Figure 26:** Relative representation by ethnic group and gender for UK domiciled masters students in the architecture, building and planning subject group.

At masters level in **architecture, building and planning** subjects in general Asian groups are underrepresented relative to White groups, and other groups have similar representation to White groups (see Figure 26). At individual subject level patterns do vary but general the patterns are similar to that displayed at the subject group level.

The patterns of activity of White and BME graduates from **architecture, building and planning** courses are similar. 31.4% of White graduates and 27.6% of BME graduates are working in STEMM occupations six months after completing first degree courses, 40.4% of White and 31.7% of BME graduates are working in non-STEMM occupations, and 12.3% of White and 22.2% of BME graduates are undertaking other activities. Overall 32.5% of White and 30.0% of BME graduate are undertaking STEMM activities six months after graduation, and 52.7% of White and 54.0% of BME graduate are undertaking non-STEMM activities six months after graduation. At individual subject level, in general, activity patterns of White and BME graduates are similar.

The numbers of BME doctoral graduates from **architecture, building and planning** courses are too low to draw any firm conclusions on their relative popularity, or on differences in the patterns of activities of graduates from doctoral courses.

**In summary,** Asian students are less likely to be reading first degree courses in the **architecture, building and planning** subjects than White students. Among Black and Chinese ethnic gender groups, females are relatively over represented compared to White females, and males are underrepresented relative to White males. There are differences in the patterns of activity of White and BME graduates from **architecture, building and planning** courses. Overall 42.0% of White and 25.6% of BME graduate are undertaking STEMM activities six months after graduation, and, at the individual subject level, in general, White graduates are more likely to be working in STEMM occupations than BME graduates. At masters level in **architecture, building and planning** subjects in general Asian groups are underrepresented relative to White groups, and other groups have similar representation to White groups. Overall at masters level 32.5% of White and 30.0% of BME graduate are undertaking STEMM activities six months after graduation, and 52.7% of White and 54.0% of BME graduate are undertaking non-STEMM activities six months after graduation. The numbers of BME doctoral graduates from **architecture, building and planning** courses are too low to

draw any firm conclusions on their relative popularity, or on differences in the patterns of activities of graduates from doctoral courses.

## 1.4 Observations on patterns of graduation activities of students by disability and subject

The proportions of students with declared disability varies a little between subject groups. Comparing one level to another, within a given subject group proportions of students without a declared disability are similar at first degree and masters level, but are, in general, higher at doctoral level.

Subject Group	Proportion of all students with known disability status with no declared disability		
	First Degree	Masters	Doctorate
Medicine and Dentistry	93.0%	91.1%	95.7%
Subjects allied to Medicine	91.2%	91.5%	92.1%
Architecture, Building and Planning	90.5%	91.9%	94.4%
Biological Sciences	90.0%	90.0%	91.1%
Engineering	91.7%	91.7%	92.2%
Mathematical and Computer Sciences	90.6%	90.6%	89.9%
Physical Sciences	89.9%	90.3%	91.8%
Technologies	87.0%	87.5%	93.9%
Veterinary Sciences, Agriculture and related subjects	87.4%	87.4%	94.3%

In the majority of subjects the differences between patterns of activity of graduates with and without a declared disability six months after completion at first degree level are not significant. In addition, in general, the numbers of graduates with a declared disability at masters and doctoral levels are too small to allow comparisons to be made.

At subject group level there are often significant differences at first degree level between the outcomes of graduates with and without a declared disability with graduates without a declared disability being more likely than graduates with a declared disability to be in STEMM occupations and less likely to be in non-STEMM occupations. Where numbers of graduates with a declared disability are great enough, the same pattern is often observed at masters level.

Overall the data do indicate that graduates with a declared disability are less likely than graduates without a declared disability to be in STEMM activities six months after completing their courses. However, the differences between the two groups of graduates are often not significant at the subject level.

The analyses below only look at the effect of having a declared disability. More work is required to examine the effects of different disabilities on post-course outcomes, although it should be noted that in many cases the numbers of graduates with specific disabilities may not be great enough to enable patterns of activity to be compared.

### Medicine and dentistry

Overall 92.5% of first degree graduates without a declared disability and 91.4% of graduates with a declared disability from **medicine and dentistry** courses are working in STEMM occupations six months after completing their courses. There are no significant differences between the patterns of occupation for either group of graduates.



At masters level, differences are more obvious although number of graduates with a declared disability is relatively low. 63.4% of graduates without a declared disability and 47.6% of graduates with a declared disability are in STEMM occupations six months after completing.

At doctoral level numbers of graduates with a declared disability are too low to make a comparison.

At the individual subject level among first degree graduates there are no significant differences in the patterns of post-graduation activities of graduates with and without a declared disability. At masters and doctoral level numbers of graduates with a declared disability are too low to make comparisons.

### Subjects Allied to Medicine

Overall, 68.0% of graduates without a declared disability and 61.9% of graduates with a declared disability are working in STEMM occupations six months after completion and 13.1% of graduates without a declared disability and 15.5% of graduates with a declared disability are in non-STEMM activities. 1.3% of both graduates with and without a declared disability are undertaking research-based further study. Overall, 69.3% of graduates without a declared disability and 61.9% of graduates with a declared disability are in STEMM activities six months after completion. Similar patterns are observed at masters levels, with 64.0% of graduates without a declared disability and 52.2% of graduates with a declared disability working in STEMM occupations, and 13.5% of graduates without a declared disability and 19.3% of graduates with a declared disability in non-STEMM activities. 3.3% of graduates without a declared disability and 5.1% of graduates with a declared disability are undertaking research-based further study. Overall, 67.3% of graduates without a declared disability and 57.2% of graduates with a declared disability are in STEMM activities six months after completion. At doctoral level, the number of graduates with a declared disability work is too low to make comparisons.

In **anatomy, physiology & pathology, aural & oral sciences, medical technology, nutrition, ophthalmics** and **pharmacology, toxicology & pharmacy** there are no significant differences between the activities of graduates without a declared disability and graduates with a declared disability at first degree level. At masters and doctoral level the numbers of graduates with a declared disability are too low to allow comparisons.

The vast majority of first degree graduates with and without a declared disability studying **nursing** go into STEMM occupations, 87.8% and 85.8%, respectively. There are, however, no significant differences in the patterns of activity of the two groups. At masters level there are significant differences in the activities with 73.9% of graduates without a declared disability and 68.6% of graduates without a declared disability going in to STEMM occupations. At doctoral level the numbers of doctoral graduates are low to allow a comparison to be made.

**In summary**, in the majority of cases where numbers of graduates with a declared disability are high enough to allow comparisons to be made, there is no significant difference between the activities of graduates with and without a declared disability.

### Biological Sciences

Across all subjects in the biological sciences 8.9% of graduates without a declared disability and 8.3% of graduates with a declared disability are working in STEMM occupations six months after completion, but 46.7% of graduates without a declared disability and 45.3% of graduates with a declared disability are working in non-STEMM occupations. 3.7% of graduates without a declared disability and 3.9% of graduates with a declared disability are undertaking research as part of their

further study, and 16.1% of graduates without a declared disability and 16.7% of graduates with a declared disability are undertaking a course. There is a significant difference between the patterns of activities of graduates with and without a declared disability. At masters level graduates without a declared disability are more likely than graduates with a declared disability to working in STEM occupations, 31.8% and 26.2%, respectively. Similarly at doctoral level, 57.3% of graduates without a declared disability and 45.6% of graduates with a declared disability are working in STEM occupations. At masters and doctoral levels the differences in the patterns of activities of the two groups are significant.

In **molecular biology, biophysics & biochemistry, genetic, microbiology, others in biological sciences and zoology** there are no significant differences between the activities of graduates with and without a declared disability at first degree level. At masters and doctoral level the numbers of graduates with a declared disability are too low to allow comparisons.

For **biology** graduates at first degree level, 17.0% of graduates without a declared disability and 14.4% of graduates with a declared disability are in STEM occupations, and 33.7% of graduates without a declared disability and 33.0% of graduates with a declared disability are in non-STEM occupations. At masters level 33.6% of graduates without a declared disability and 27.2% of graduates with a declared disability are in STEM occupations, and 22.0% of graduates without a declared disability and 25.6% of graduates with a declared disability are in non-STEM occupations. At doctoral level the numbers of graduates with a declared disability are too low to allow a comparison.

In **psychology** 6.2% of graduates without a declared disability and 6.5% of graduates with a declared disability are working in STEM occupations six months after completion. 58.2% of graduates without a declared disability and 49.8% of graduates with a declared disability are working in non-STEM occupations, and 14.2% of graduates without a declared disability and 16.6% of graduates with a declared disability are undertaking a course. The differences in the patterns of activities of graduates without a declared disability and graduates with a declared disability are significant. At masters level 31.2% of graduates without a declared disability and 25.6% of graduates with a declared disability are working in STEM occupations six months after completion. 35.2% of graduates without a declared disability and 35.0% of graduates with a declared disability are working in non-STEM occupations. There are too few graduates with a declared disability to allow comparisons at doctoral level.

**In summary**, there few difference differences at the subject level between the patterns of activity of graduates with and without a declared disability from biological science subjects.

#### Veterinary Sciences, Agriculture and related subjects

Across the whole **veterinary sciences, agriculture and related subjects** group, there are differences between the patterns of activities of graduates with and without a declared disability six months after completing their courses. Overall, graduates without a declared disability are more likely than graduates with a declared disability to be in STEM occupations: 34.6% of graduates with a declared disability and 41.5% of graduates without a declared disability first degree graduates are working in STEM occupations. The differences in the patterns of activity graduates without a declared disability and graduates with a declared disability six months after completion are significant. At masters, 40.9% of graduates without a declared disability and 39.2% graduates with a declared disability are working in STEM-occupations and 26.3% of graduates without a declared disability and 34.4% of graduates without a declared disability are in non-STEM disability. The difference in

the patterns of activity is significant. There are too few doctoral graduates without a declared disability to allow comparisons.

In **agriculture** at first degree level 22.6% of graduates without a declared disability and 19.9% graduates with a declared disability are in STEMM activities, and, 42.2% of graduates without a declared disability and 41.5% of graduates with a declared disability are in non-STEMM occupations. The difference in patterns of activity is not, however, significant. At masters and doctoral level there are too few graduates with a declared disability to allow for comparisons to be made.

In **animal sciences, clinical veterinary medicine & dentistry, pre-clinical veterinary medicine, and food & beverage studies** the differences between the patterns of activity six months after completion of graduates with and without a declared disability are not significant at first degree level. At doctoral and masters level there are too few graduates with a declared disability to allow comparisons between patterns of activity to be made.

**In summary**, there are no significant differences between the post-completion activities of graduates with and without a declared disability graduating from individual subjects in the **veterinary sciences, agriculture and related** subject group. However, at the subject group level there are significant differences between the activities six months after completion of graduates with and without a declared disability with graduates without a declared disability being more likely than graduates with a declared disability to be in STEMM occupations.

#### Physical Science

Across all physical sciences first degree courses 17.2% of graduates without a declared disability and 15.2% graduates with a declared disability are working in STEMM occupations six months after completion, and 32.6% of graduates without a declared disability and 30.3% of graduates with a declared disability are in non-STEMM occupations. 11.3% graduates without a declared disability, and 10.3% of graduates with a declared disability are undertaking research-based further study. Overall, 28.5% of graduates with a declared disability and 25.5% of graduates without a declared disability are undertaking STEMM activities six months after completing first degree courses. The differences in the patterns of activity of the two groups are significant. At masters level the difference between the patterns of activity of graduates with and without a declared disability is also significant. 39.8% of masters graduates without a declared disability and 36.7% of masters graduates with a declared disability are working in STEMM occupations six months after completion, and 23.3% of graduates without a declared disability and 19.7% of graduates with a declared disability are in non-STEMM occupations. Furthermore, 13.6% of masters graduates without a declared disability, but 18.7% of graduates with a declared disability are undertaking research-based further study. Overall, 53.4% of graduates without a declared disability and 55.3% of graduates with a declared disability are undertaking STEMM activities six months after completing masters courses. The difference in the patterns of activity of the two groups is significant. The data suggest that undertaking a masters course in physical sciences encourages graduates with a declared disability to undertake research. Differences in patterns of activity at doctoral level is also significant but here graduates with a declared disability are less likely to be undertaking STEMM activities six months after completion than graduates without a declared disability. Overall, 49.9% of graduates without a declared disability are in STEMM occupations compared to 48.6% of graduates with a declared disability, and 25.7% of graduates without a declared disability are in non-STEMM occupations compared to 27.7% of graduates without a declared disability.

At individual subject level in the physical science subjects, for the most part the differences in the patterns of activity between graduates without a declared disability and graduates with a declared disability six months after completing first degrees courses are not significant. At masters and doctoral levels, in general numbers of graduates with a declared disability are too low to allow comparisons between patterns of activity to be made.

There are significant differences between the post-completion patterns of activity of first degree graduates with and without a declared disability from **forensic & archaeological science, chemistry, geology, and physics** with, in general graduates with a declared disability being less likely to be in STEM occupations than graduates without a declared disability. There is variation in the relative likelihood of graduates entering research-based further study. In **chemistry** 21.7% of graduates without a declared disability and 19.7% of graduates with a declared disability enter research-based further study while in **physics** the relative figures are 20.3% of graduates without a declared disability and 23.9% of graduates with a declared disability.

**In summary**, at subject group level there are significant differences between the completion activities of graduates with and without a declared disability with graduates without a declared disability being more likely to be in STEM occupations at all levels than graduates with a declared disability. At individual subject level, there are some significant differences between the activities of graduates without a declared disability and graduates with a declared disability at first degree levels.

#### Mathematical and Computer Sciences

Across all **mathematical and computer sciences** subjects at first degree level, 28.8% of graduates with a declared disability and 26.9% of graduates without a declared disability are working in STEM occupations six months after completing courses, and 30.0% of graduates without a declared disability and 26.2% of graduates with a declared disability are in non-STEM occupations. At masters level 40.0% of graduates without a declared disability and 36.8% of graduates with a declared disability are working in STEM occupations six months after completing courses, and 21.1% of graduates without a declared disability and 20.2% of graduates with a declared disability are in non-STEM occupations. At doctoral level 39.9% of graduates without a declared disability and 41.8% of graduates with a declared disability are working in STEM occupations six months after completing courses, and 27.2% of graduates without a declared disability and 22.4% of graduates with a declared disability are in non-STEM occupations. At first degree level and masters level, the differences in patterns of activity between graduates with and without a declared disability are significant, but not at doctoral level.

In **artificial intelligence, software engineering and statistics** there are no significant differences between the activities of first degree graduates with and without a declared disability at first degree level. There are also too few graduates with a declared disability in these subjects at masters and doctoral levels to make comparisons.

First degree **computer science** graduates without a declared disability are more likely than graduates with a declared disability to be working in STEM occupations six months after completing their courses. 36.9% of graduates without a declared disability and 32.2% of graduates with a declared disability are working in STEM occupations, and 28.8% of graduates with a declared disability and 24.8% of graduates without a declared disability are in non-STEM occupations. Graduates with a declared disability are more likely than graduates without a declared disability to be undertaking a course or to be undertaking other activities. At masters level the difference between the patterns of

activity is not significant, and at doctoral level the number of graduates with a declared disability are too low to allow comparisons.

In **information systems** 26.0% of graduates without a declared disability and 22.3% of graduates with a declared disability are working in STEMM occupations, and 34.7% of graduates without a declared disability and 32.6% of graduates with a declared disability are in non-STEMM occupations. As with **computer science**, graduates with a declared disability are more likely than graduates without a declared disability to be undertaking a course or other activities. At masters level a similar pattern is followed: 40.2% of graduates without a declared disability and 38.8% of graduates with a declared disability are in STEMM occupations, and 26.8% of graduates without a declared disability and 23.7% of graduates with a declared disability are in non-STEMM occupations. The difference in patterns of activity is significant. At doctoral level there are too few graduates with a declared disability graduates to draw any firm conclusions.

In **mathematics**, at first degree level, 16.6% of graduates without a declared disability and 13.8% of graduates with a declared disability are working in STEMM occupations, and 30.6% of graduates without a declared disability and 26.9% of graduates with a declared disability are in non-STEMM occupations. 4.7% of graduates without a declared disability and 6.5% of graduates with a declared disability go on to research-based further study, and 19.7% of graduates without a declared disability and 21.4% of graduates with a declared disability go on to other courses. At masters level patterns between the two groups are similar and there are too few doctoral graduates with a declared disability to allow comparisons.

**In summary**, overall at subject group level graduates with a declared disability are less likely than graduates without a declared disability to be in a STEMM occupation six months after completing a first degree course, but they are also more likely to be in a non-STEMM occupation. A similar pattern is followed at masters level, but at doctoral level graduates with a declared disability are more likely to be in STEMM occupations than graduates without a declared disability. At individual subject level, where there are significant differences between the patterns of activity of graduates with and without a declared disability, the same patterns are followed with graduates without a declared disability being more likely to be in STEMM occupations than graduates with a declared disability, and, also more likely to be in non-STEMM occupations.

### Engineering

Overall in engineering 46.2% of graduates without a declared disability and 41.6% of graduates with a declared disability enter STEMM occupations, and 18.6% of graduates without a declared disability and 20.0% of graduates with a declared disability enter non-STEMM occupations. Overall 50.1% of graduates without a declared disability and 45.8% of graduates with a declared disability are undertaking STEMM activities six months after completion. At masters level, 51.5% of graduates without a declared disability and 44.4% of graduates with a declared disability are in STEMM occupations, and, 16.3% of graduates without a declared disability and 18.5% of graduates with a declared disability are in non-STEMM occupations. At doctoral level there are too few graduates with a declared disability to allow comparisons to be made.

In the majority of engineering subjects there are no clear differences in the patterns of post-completion activities for graduates with and without a declared disability. Specifically in **aerospace engineering, chemical, process & energy engineering, civil engineering, electronic and electrical engineering, mechanical engineering**, and, **production and manufacturing engineering** there are no significant differences in patterns of post-completion activities at first degree level. In the main,

there are too few graduates with a declared disability at masters and doctoral levels to allow comparisons.

At first degree level in **general engineering** 45.3% of graduates without a declared disability and 38.5% of graduates with a declared disability are working in STEMM occupations, and 19.1% of graduates without a declared disability and 21.5% of graduates with a declared disability are in non-STEMM occupations. Like the other subjects, numbers of graduates with a declared disability are too low at masters and doctoral levels are too few to allow comparisons.

**In summary**, in the **engineering** subject group at first degree and masters level a higher proportion of graduates without a declared disability enter STEMM occupations than graduates with a declared disability, and a higher proportion of graduates with a declared disability enter non-STEMM occupations than graduates without a declared disability. For the most part, the differences in the patterns of activities of graduates without a declared disability and graduates with a declared disability are not significant at the individual subject level.

### Technologies

There are some differences in the patterns of activity of graduates without a declared disability and graduates with a declared disability from the **technology** subject group. 18.8% of graduates without a declared disability and 17.6% of graduates with a declared disability enter STEMM occupations, and 41.3% of graduates without a declared disability and 38.3% of graduates with a declared disability enter non-STEMM occupations. Overall 21.2% of graduates without a declared disability and 19.4% of graduates with a declared disability are undertaking STEMM activities six months after completion, and 62.0% of graduates without a declared disability and 63.8% of graduates with a declared disability are in non-STEMM activities. At masters and doctoral level the numbers of graduates with a declared disability are too few to allow comparisons in the patterns of activities to be made.

The patterns of activity of graduates with and without a declared six months after completing first degree courses are not significantly different in **materials technology not otherwise specified**, **others in technology**, and **polymers & textiles**. Numbers of graduates with a declared disability at masters and doctoral level in individual subjects are too few to allow comparisons in the patterns of activities.

**In summary**, in the **technology** subject group there are some differences in the patterns of activity of graduates with and without a declared disability at first degree level but at the individual subject level differences are not significant.

### Architecture, Building and Planning

Like other subject groups, in the **architecture, building and planning** subject group at first degree level graduates without a declared disability are more likely than graduates with a declared disability to be in STEMM occupations and less likely to be in non-STEMM occupations. 40.2% of graduates without a declared disability and 34.3% of graduates with a declared disability are in STEMM occupations six months after completing, and 25.0% of graduates without a declared disability and 24.6% of graduates with a declared disability are in non-STEMM occupations. Overall, 40.6% of graduates without a declared disability and 34.7% of graduates with a declared disability are undertaking STEMM activities six months after completion, and 42.3% of graduates without a declared disability and 46.1% of graduates with a declared disability are in non-STEMM activities. At masters level, 31.1% of graduates without a declared disability and 30.6% of graduates with a

declared disability are in STEMM occupations six months after completing, and 39.8% of graduates without a declared disability and 33.6% of graduates with a declared disability are in non-STEMM occupations. Overall, 32.4% of graduates without a declared disability and 31.6% of graduates with a declared disability are undertaking STEMM activities six months after completion, and 52.9% of graduates without a declared disability and 49.7% of graduates with a declared disability are in non-STEMM activities. At doctoral level the numbers of graduates with a declared disability are too few to allow comparisons in the patterns of activities to be made.

At first degree level in **architecture** and **landscape design** there are no significant differences in patterns of post-completion activities at first degree level. Similarly in **architecture** at masters level there is no significant difference in patterns of post-completion activities. There are too few graduates with a declared disability at doctoral level in **architecture** and at masters and doctoral level in **landscape design** to allow comparisons to be made.

In **building** patterns of activities of graduates with and without a declared disability at first degree level are different. 57.4% of graduates without a declared disability and 49.4% of graduates with a declared disability are working in STEMM occupations, and 18.7% of graduates without a declared disability and 21.2% of graduates with a declared disability are in non-STEMM occupations. Overall, 57.6% of graduates without a declared disability and 49.8% of graduates with a declared disability are undertaking STEMM activities six months after completion, and 35.4% of graduates without a declared disability and 43.5% of graduates with a declared disability are in non-STEMM activities. At masters level 58.0% of graduates without a declared disability and 53.4% of graduates with a declared disability are working in STEMM occupations, and 20.2% of graduates without a declared disability and 19.3% of graduates with a declared disability are in non-STEMM occupations. There are too few doctoral graduates with a declared disability to draw any firm conclusions.

Graduates with a declared disability in **planning (urban, rural & regional)** courses are more likely to be undertaking STEMM activities than graduates without a declared disability. 17.9% of first degree graduates without a declared disability and 21.8% of graduates with a declared disability are working in STEMM occupations, and 45.3% of graduates without a declared disability and 37.1% of graduates with a declared disability are in non-STEMM occupations. At masters level, 19.5% of graduates without a declared disability and 22.4% of graduates with a declared disability are working in STEMM occupations, and 62.7% of graduates without a declared disability and 54.9% of graduates with a declared disability are in non-STEMM occupations. There are too few doctoral graduates with a declared disability to draw any firm conclusions.

**In summary**, overall at subject group level graduates without a declared disability are more likely than graduates with a declared disability to be in STEMM occupations at first degree and masters level six months after completion. There are some variations in the patterns of activity of graduates with and without a declared disability at individual subject level but again where differences in patterns of activity are significant, graduates without a declared disability are more likely to be in STEMM occupations than graduates with a declared disability.

## 2. Observations on higher education staff and on their previous employment and leaving destinations

The HESA Staff record provides data in respect of the characteristics of members of all academic and non-academic staff employed under a contract of employment at a reporting higher education institution (HEI) in the UK. Staff employed under consultancy contracts, or on the basis of payment of fees for services without a contract of employment are not included in the record.

### Staff Grades

Until 2007/08, HESA reported staff data categorised into professors, senior lecturers (including readers), lecturers, researchers and other grades. The definitions of staff grades are shown below:

**Professors** includes heads of departments, professors, researchers (former UAP scale grade IV), clinical professors, and those appointed professors on a locally determined scale.

**Senior lecturers & researchers** includes principal lecturers, senior lecturers (former UAP/CSCFC scales), researchers (former UAP scale grade III), clinical senior lecturers and those appointed senior or principal lecturers on a locally determined scale.

**Lecturers** includes lecturers, senior lecturers (former PCEF scale), clinical lecturers and those appointed lecturers on a locally determined scale.

**Researchers** includes all research grades (former PCEF/CSCFC/UAP scale) not listed above and those researchers appointed on a locally determined scale.

**Other grades** includes other grades of academic staff not listed above.

Between 2008/09 and 2011/12 this breakdown of grades has not been used, although professors were identifiable through a specific marker.<sup>3</sup>

Between 2008/09 and 2011/12 the following methodology has been used to identify grades of staff. For staff who are not identified as professors, the **academic employment function** field is used as follows: staff identified as "teaching and research" or staff identified as "teaching only" are classified as "senior lecturers/lecturers"; staff identified as "research only" are classified as "researchers"; and staff identified as "neither teaching nor research" are classified as "other grades". Some staff will be classified incorrectly using this methodology, in particular senior researchers may be assigned to the "researcher" category rather "senior lecturers/lecturers" and some teaching only staff may be assigned to the "senior lecturers/lecturers" category rather than "other grades". It is noticeable that using this methodology the other staff category has significantly fewer staff assigned to it using this methodology after 2007/08 than those that were assigned to it up to 2007/08, suggesting that indeed a number of teaching only staff were previously classified as "other staff". Nonetheless overall data compared reasonably well with previous years'. It was not possible to distinguish between senior lecturers (readers) and lecturers.

### Previous Employment

The Previous employment field is used to record the nature of employment of the member of staff before entering employment with the current institution

---

<sup>3</sup> From 2012/13 a new system of classifying staff was introduced.



It is expected that once the member of staff has entered employment with the institution the code returned in this field will remain the same until the member of staff leaves the institution. Consequently analysis has been carried out based only on data for 2011/12.

The following classifications are used:

- Another HEI in UK
- HEI in an overseas country
- Other education institution in UK
- Other education institution in an overseas country
- Research institution in the UK
- Research institution overseas
- Student in UK
- Student in an overseas country
- NHS/General medical or general dental practice in UK
- Health service in an overseas country
- Other public sector in UK
- Private industry/commerce in UK
- Self-employed in UK
- Other employment in UK
- Other employment in an overseas country
- Not in regular employment
- Not known
- Not applicable/Not required

### **Leaving destination**

The Leaving destination field denotes the "destination" of the member of staff after leaving the employment of the institution, including retirement or death. Leaving destinations have been analysed for all years from 2006/07 to 2011/12.

The following classifications are used:

- Another HEI in UK
- HEI in an overseas country
- Other education institution in UK
- Other education institution in an overseas country
- Research institution in the UK
- Research institution overseas
- Student in UK
- Student in an overseas country
- NHS/General medical or general dental practice in UK
- Health service in an overseas country
- Other public sector in UK
- Private industry/commerce in UK
- Self-employed in UK
- Other employment in UK
- Other employment in an overseas country
- Not in regular employment
- Retirement
- Death

Not known  
Not applicable/Not required

### Concise classifications

In order to simplify analysis concise classifications have been used. The concise classifications map to the detailed classifications as follows:

Previous Employment	Leaving Destination	Concise Previous Employment/Leaving Destination
Another HEI in UK	*Another HEI in UK	UK HEI/Research Institution
HEI in an overseas country	*HEI in an overseas country	Overseas HEI/Research Institution
Other education institution in UK	*Other education institution in UK	Other Education Institution (UK and Overseas)
Other education institution in an overseas country	*Other education institution in an overseas country	Other Education Institution (UK and Overseas)
Research institution in the UK	*Research institution in the UK	UK HEI/Research Institution
Research institution overseas	Research institution overseas	Overseas HEI/Research Institution
Student in UK	Student in UK	Student
Student in an overseas country	Student in an overseas country	Student
NHS/General medical or general dental practice in UK	NHS/General medical or general dental practice in UK	Health Related (UK and Overseas)
Health service in an overseas country	Health service in an overseas country	Health Related (UK and Overseas)
Other public sector in UK	Other public sector in UK	Public Sector/Private Industry/Commerce in UK
Private industry/commerce in UK	Private industry/commerce in UK	Public Sector/Private Industry/Commerce in UK
Self-employed in UK	Self-employed in UK	Other employment and self-employed (UK and Overseas)
Other employment in UK	Other employment in UK	Other employment and self-employed (UK and Overseas)
Other employment in an overseas country	Other employment in an overseas country	Other employment and self-employed (UK and Overseas)
Not in regular employment	Not in regular employment	Not in regular employment
	Retirement	Retirement or Death
	Death	Retirement or Death
Not known	Not known	Not known
Not applicable/Not required (Default code)	Not applicable/Not required (Default code)	Not applicable/Not required (Default code)

For the majority of cost centres the number of female professors with known previous employment or leaving destinations is too small to be able to draw any conclusions when compared to the previous employment or leaving destinations of male professors.

Also in general, the numbers of BME and staff with disabilities are too small to draw any firm conclusions in respect of the patterns of previous employment or leaving destination. Comparing the previous employment and leaving destinations of men and women by cost centre is also difficult since even where the numbers of leavers is reasonably large, those numbers are spread over a number of previous employment/leaving destinations categories.

It should also be noted that the data for the previous employment of senior lecturers/lecturers records "student" for around 10% of staff. This is because if an individual joins an institution as a post doctoral researcher after completing their PhD, and then obtains a permanent academic post at the same institution, their previous employment will be recorded as student. In essence the previous employment category "student" for permanent academic staff is an indicator of staff who have stayed in the same institution from the time of their first post after completing their PhD. Although the student category is included in the data for senior lecturers/lecturers this category is not referred to explicitly in the summaries below. Instead, for senior lecturers'/lecturers' previous employment the student category has been combined with the UK HEI/research institution category. Such instances are marked with an asterisk in the text below.

## **2.2 General observations on the ethnicity of UK national academic staff by cost centre**

The proportion of BME permanent academic staff varies from electrical electronic & computer engineering with 17% BME staff to archeology with only 1% BME staff. There are some patterns which are discernable. Engineering, subjects related to medicine and medicine & dentistry cost centres tend to have higher proportions of BME staff than physical science and biological science cost centres.

There are higher proportions of UK national researchers who are in BME groups than academic staff ranging from clinical dentistry with 28% BME researchers to archeology with 3% BME researchers. The same patterns as for permanent academic staff are observed in respect of cost centre groups and the proportion of staff in BME groups.

It should be noted that more detailed observations considering the make up of cost centres by ethnic group does show interesting patterns that are reflected in the patterns in the ethnic group make up of the student population. For example, British Indians are over represented in medical & dentistry cost centres and subjects related to medicine cost centres and Chinese are over represented in engineering cost centres. In other words, as with the student population, there is a great deal of variation in the representation of individual ethnic groups by cost centre which in turn leads to the overall variation in the proportion of staff from BME groups.

## **2.3 General observations on the disability status of academic staff by cost centre**

There is relatively little variation in the disability status of staff by cost centre with the exception of health & community studies and nursing & paramedical studies. On average, 96.7% of permanent academic staff have no known disability and with the exception of health & community studies and nursing & paramedical studies the proportion of staff with no known disability ranges smoothly between 96.0% (psychology & behavioural sciences) and 98.4% (clinical dentistry). 93.8% of permanent academic staff in health & community studies and 94.8% of permanent academic staff in nursing & paramedical studies have no known disability.

There is a greater range in the proportion of researchers with no known disability by cost centre than in that for permanent academic staff caused in part because the low number of researchers in some cost centres. On average across all cost centres 96.2% of researchers have no known disability. Once again, health & community studies (95.6%) and nursing & paramedical studies (96.0%) have relatively low proportions of staff with no known disability (archaeology actually has the lowest proportion (94.0%)).

In most cost centres the absolute numbers of staff with declared disabilities are too low to draw any firm conclusions but it is probably significant that health & community studies and nursing & paramedical studies do have relatively high proportions of staff with declared disabilities. The explanation may be because a higher proportion of staff in these cost centres have disabilities but also in part because staff in these cost centres are more willing to declare disabilities.

## **2.3 Detailed observations by cost centres**

### Agriculture & forestry

In 2011/12 8.8% of professors, 42.1% of senior lecturers/lecturers, and 58.9% of researchers in agriculture & forestry were female. Unusually, the proportion of professors who are female has fallen from 13.2% over the six years from 2006/07, the proportion of senior lecturers/lecturers who

are female has risen from 38.9% and the proportion of researchers who are female has risen from 51.6%.

97.4% of UK academic staff of known ethnicity are White and 97.4% of academic staff of known disability status have no known disability.

Male and female researchers have similar patterns of previous employment with around 28% of both men and women moving from other UK HEIs/research institutions, and 27% taking a post having previously been a student. 32% of researchers move on to posts in UK HEIs/research institutions, and 21% to other posts or self-employment in the UK or overseas. 26% are reported as not being in regular employment.

Among senior lecturers/lecturers, patterns of previous employment of men and women are similar, 50% of males and 24% of females were previously in UK HEIs/research institutions,\* 10% of males and 21% of females had posts other UK and overseas education institutions, and 14% of men 22% of women were in other employment or self-employed in the UK or overseas. Similar proportions of men and women were in the private sector (23%). 51% of senior lecturers/lecturers moved on to other education establishments in the UK or overseas, and 21% were reported as not being in regular employment.

#### Anatomy & physiology

In 2011/12 20.6% of professors, 48.9% of senior lecturers/lecturers, and 56.7% of researchers in anatomy & physiology were female. The proportion of professors who are female rose from 15.8% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 47.1% and the proportion of researchers who are female has risen from 51.7%.

89.0% of UK academic staff of known ethnicity are White meaning that 11.0 of academic staff are BME which is relatively high, and 96.8% of academic staff of known disability status have no known disability.

Male and female researchers have similar patterns of previous employment with around 25% of both men and women moving from other UK HEIs or research institutions, and 29% taking a post having previously been a student. 30% of male researchers and 19% of female researchers move on to posts in UK HEIs/research Institutions, and 25% of males and 35% of females are reported as not being in regular employment.

Among senior lecturers/lecturers, patterns of previous employment of men and women are similar, 36% of males and 32% of females were previously in UK HEIs/research institutions,\* and 24% of males and 32% of females had health-related posts in the UK or overseas. There is a spread of leaving destinations but 21% of men and 46% of women move on to other employment or self-employment in the UK or overseas, and 45% of men and 34% of women were reported as not being in regular employment.

#### Archaeology

In 2011/12 15.3% of professors, 42.7% of senior lecturers/lecturers, and 50.5% of researchers in archaeology were female. The proportion of professors who are female rose from 11.0% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 38.7% and the proportion of researchers who are female has risen from 47.7%.

98.9% of UK academic staff of known ethnicity are White and 96.1% of academic staff of known disability status have no known disability.

Male and female researchers have similar patterns of previous employment with around 27% of both men and women moving from other UK HEIs/research institutions, and 26% taking a post having previously been a student. 18% of researchers move on to posts in UK HEIs/research institutions, and 38% are reported as not being in regular employment, which is the highest proportion among all cost centres.

Among senior lecturers/lecturers, patterns of previous employment of men and women are different with 58% of men and 65% of women having previously been in UK HEIs/research institutions,\* 14% of men and 11% of women having previously been in overseas HEIs/research institutions, 11% of men and 7% of women were in the public or private sector, and 9% of men and 10% of women were in other employment or self-employment in the UK or abroad. The number of leavers is too small to draw any firm conclusions.

#### Architecture, built environment & planning

In 2011/12 14.2% of professors, 30.9% of senior lecturers/lecturers, and 39.4% of researchers in architecture, built environment & planning were female. The proportion of professors who are female rose from 11.1% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 27.2% and the proportion of researchers who are female has fallen slightly from 41.0%.

92.6% of UK academic staff of known ethnicity are White and 97.0% of academic staff of known disability status have no known disability.

Male and female researchers have similar patterns of previous employment with around 28% of both men and women moving from other UK HEIs or research institutions, 8% of men and 10% of women having previously been in overseas HEIs/research institutions, 21% of men and 17% of women were in the public or private sector, and 11% of men and 15% of women were in other employment or self-employment in the UK or abroad and 22% taking a post having previously been a student. 23% of men and 28% of women researchers move on to posts in UK HEIs/research institutions, 10% of both men and women move to the public or private sector in the UK, 20% of men and 12% of women move to other employment or self-employment in the UK or abroad and 23% of men 28% of women are reported as not being in regular employment.

Among senior lecturers/lecturers, patterns of previous employment of men and women are similar, 31% of males and 33% of females were previously in UK HEIs/research institutions,\* 33% of males and 32% of females were in the public or private sector in the UK, and 19% of males and 20% of females were in other employment or self-employed in the UK or overseas. There are some differences between the leaving destinations of men and women. 14% of men and 11% of women move on to posts in other HEIs/research institutions in the UK, 13% of men and 21% of women move to other employment or self-employment in the UK or overseas, 30% of men and 45% of women were reported as not being in regular employment and 23% of men and 11% of women retired or had died.

#### Biosciences

In 2011/12 16.4% of professors, 44.0% of senior lecturers/lecturers, and 49.9% of researchers in biosciences were female. The proportion of professors who are female rose from 14.0% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 34.7% and the proportion of researchers who are female was similar at 49.1%.

93.1% of UK academic staff of known ethnicity are White and 97.4% of academic staff of known disability status have no known disability.

Male and female researchers have similar patterns of previous employment with around 33% of men and 32% of women moving from other UK HEIs/research institutions, 20% of men and 16% of women from HEIs/research institutions abroad and 28% of men and 29% of women taking a post having previously been a student. Patterns of leaving destinations of male and female researcher do differ. 28% of male researchers and 25% of female researchers move on to posts in UK HEIs/research institutions, 20% of males and 13% of females move on to overseas HEIs/research institutions and 24% of males and 31% of females are reported as not being in regular employment.

Among senior lecturers/lecturers there are differences in the patterns of previous employment of men and women. 59% of males and 54% of females were previously in UK HEIs/research institutions,\* 14% of males and 8% of females were in overseas HEIs/research institutions, and 10% of both men and women were in the public or private sector in the UK. There are also some differences between the leaving destinations of men and women. 15% of men and 17% of women move on to posts in other HEIs/research institutions in the UK and 11% of men and 21% of women move to other employment or self-employment in the UK or overseas. 27% of men and 13% of women retired or had died and 27% of men and 13% of women were reported as not being in regular employment.

#### Chemical engineering

In 2011/12 15.2% of professors, 24.4% of senior lecturers/lecturers, and 32.9% of researchers in chemical engineering were female. The proportion of professors who are female rose from 7.3% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 19.2% and the proportion of researchers who are female has risen from 25.8%.

83.6% of UK academic staff of known ethnicity are White and 98.1% of academic staff of known disability status have no known disability.

Male and female researchers have similar patterns of previous employment with around 19% of men and 18% of women moving from other UK HEIs/research institutions, 18% of men and 16% of women from overseas HEIs/research institutions, 10% of men and 5% of women being in other employment or self-employment in the UK or abroad, and 37% of men and 47% of women taking a post having previously been a student. Numbers of female researchers with known leaving destinations are too low to draw any firm conclusions, but overall 18% of researchers move on to posts in UK HEIs/research institutions, 20% move to overseas HEIs/research institutions and 26% are reported as not being in regular employment.

Among senior lecturers/lecturers there are too few women with known previous employment to draw any firm conclusions: 54% of senior lecturers/lecturers were previously in UK HEIs/research institutions,\* 17% were previously in overseas HEIs/research institutions and 16% were in the public or private sector in the UK. The number of senior lecturer/lecturer leavers with known leaving destinations is too small to draw any firm conclusions.

#### Chemistry

In 2011/12 7.9% of professors, 28.9% of senior lecturers/lecturers, and 28.3% of researchers in chemistry were female. The proportion of professors who are female rose from 6.0% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 19.8% and the proportion of researchers who are female has fallen slightly from 30.2%.

94.1% of UK academic staff of known ethnicity are White and 97.6% of academic staff of known disability status have no known disability.

Male and female researchers have similar patterns of previous employment with around 24% of male and 26% of females moving from other UK HEIs/research institutions, 25% of males and 21% of females from overseas HEIs/research institutions and 33% of males and 36% of females taking a post having previously been a student. Patterns of leaving destinations of male and female researchers are similar. 22% of male researchers and 21% of female researchers move on to posts in UK HEIs/research institutions, 25% of males and 27% of females move on to overseas HEIs/research institutions and 23% of males and 21% of females are reported as not being in regular employment.

Among senior lecturers/lecturers there are some differences in the patterns of previous employment of men and women. 55% of males and 50% of females were previously in UK HEIs/research institutions,\* 15% of males and 12% of females were in overseas HEIs/research institutions and 12% of males and 10% of females were in the private sector. There are too few women leavers to draw any firm conclusions on differences between the leaving destinations of men and women. Overall, 16% move on to posts in other HEIs/research institutions in the UK and 21% move to other employment or self-employment in the UK or overseas. 28% are reported as not being in regular employment and 17% had retired or had died.

#### Civil engineering

In 2011/12 6.3% of professors, 18.9% of senior lecturers/lecturers, and 28.9% of researchers in civil engineering were female. The proportion of professors who are female rose from 3.4% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 13.5% and the proportion of researchers who are female has risen from 25.3%.

85.4% of UK academic staff of known ethnicity are White and 98.1% of academic staff of known disability status have no known disability.

Male and female researchers have similar patterns of previous employment with around 16% of men and 18% of women moving from other UK HEIs/research institutions, 13% of men and 7% of women from overseas HEIs/research institutions, 15% of men and 19% of women moving from the public or private sector in the UK, 10% of men and 6% of women working in other employment or self-employment in the UK or abroad, and 41% taking a post having previously been a student. Numbers of female researchers with known leaving destinations are too low to draw any firm conclusions, but overall 15% of researchers move on to posts in UK HEIs/research institutions, 16% move to the public or private sector in the UK, 16% are in other employment or self-employment in the UK or overseas, 10% move to overseas HEIs/research institutions and 30% are reported as not being in regular employment.

Among senior lecturers/lecturers the previous destinations of men and women are similar: 45% of senior lecturers/lecturers were previously in UK HEIs/research institutions,\* 20% were previously in overseas HEIs/research institutions and 26% were in the private sector. There are too few women leavers to draw any firm conclusions on differences between the leaving destinations of men and women. 11% move on to posts in other HEIs/research institutions in the UK and 39% move to other employment or self-employment in the UK or overseas. 24% are reported as not being in regular employment and 15% had retired or had died.



### Clinical dentistry

In 2011/12 18.9% of professors, 42.1% of senior lecturers/lecturers, and 58.9% of researchers in clinical dentistry were female. The proportion of professors who are female rose from 13.2% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 38.9% and the proportion of researchers who are female has risen from 51.6%.

83.6% of UK academic staff of known ethnicity are White – 16% BME academic staff is a relatively high proportion compared to other cost centres - and 98.4% of academic staff of known disability status have no known disability.

The numbers of researchers with known previous employment or with known leaving destinations are too low to draw any firm conclusions.

Among senior lecturers/lecturers the previous destinations of men and women are similar: 22% of male and 18% of female senior lecturers/lecturers were previously in UK HEIs/research institutions,\* and 52% of males and 55% of females were previously in health-related work with in the UK or overseas and 26% were in the public or private sector in the UK. There are too few leavers with known destinations to draw any firm conclusions.

### Clinical medicine

In 2011/12 22.3% of professors, 45.5% of senior lecturers/lecturers, and 60.8% of researchers in clinical medicine were female. The proportion of professors who are female rose from 16.7% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 38.7% and the proportion of researchers who are female essentially stayed constant being 60.9% in 2006/07.

88.8% of UK academic staff of known ethnicity are White, which is a relative low proportion compared to other cost centres, and 98.2% of academic staff of known disability status have no known disability.

There are large numbers of researchers with known previous employment, 4095 men and 6410 women. 27% of males and 28% of females were previously in UK HEIs/research institutions, 22% of males and 20% of females were in health-related roles in the UK or overseas. 21% of men and 23% of women were previously students. There are some similarities between the patterns of leaving destinations of male and female researchers. 23% of male researchers and 22% of female researchers move on to posts in UK HEIs/research institutions, 25% of males and 17% of females move on to health-related posts in the UK or overseas, 11% of males and 12% of females move on to other employment or self-employment in the UK or overseas, and 15% of males and 23% of females are reported as not being in regular employment.

As with researchers in clinical medicine, there are large numbers of senior lecturers/lecturers with known previous employment. 35% of male and 36% of female senior lecturers/lecturers were previously in UK HEIs/research institutions,\* 10% of male and 8% of female senior lecturers/lecturers were previously in HEIs/research institutions abroad, and 40% of males and 39% of females were previously in health-related work in the UK or overseas. There are also some differences between the leaving destinations of men and women. 21% of men and 19% of women move on to posts in other HEIs/research institutions in the UK, 38% of men and 31% women move to health-related posts in the UK or overseas, 9% of men and 13% of women were in other employment or self-employment in the UK or abroad, 7% of men and 14% of women were not in regular employment and 15% of men and 9% of women retired or died.

### Earth, marine & environmental sciences

In 2011/12 10.1% of professors, 36.5% of senior lecturers/lecturers, and 40.4% of researchers in clinical medicine were female. The proportion of professors who are female rose from 7.5% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 26.6% and the proportion of researchers who are female has risen from 37.2%.

97.5% of UK academic staff of known ethnicity are White and 96.2% of academic staff of known disability status have no known disability.

Male and female researchers have similar patterns of previous employment with around 26% of men and women moving from other UK HEIs or research institutions, 18% of men and 20% of women were previously in an overseas HEI/research institution and 33% of men and 30% of women taking a post were previously a student. Patterns of leaving destinations of male and female researchers differ. 25% of male researchers and 20% of female researchers move on to posts in UK HEIs/research institutions, 20% of males and 17% of females move on to overseas HEIs/research institutions and 22% of males and 28% of females are reported as not being in regular employment.

Among senior lecturers/lecturers there are some differences in the patterns of previous employment of men and women. 50% of both males and females were previously in UK HEIs/research institutions,\* 16% of males and 9% of females were in overseas HEIs/research institutions, 10% of men and 13% of women were in other education institutions in the UK or overseas, 14% of men and 13% of women were in the public or private sector in the UK and 7% of men and 11% of women were in other employment or self-employed in the UK or overseas. There are too few women leavers to draw any firm conclusions on differences between the leaving destinations of men and women. Overall 11% move on to posts in other HEIs/research institutions in the UK, and 11% move on to HEIs/research institutions overseas, 17% move to other employment or self-employment in the UK or overseas, 19% were reported as not being in regular employment and 22% retired or died.

### Electrical, electronic & computer engineering

In 2011/12 6.3% of professors, 14.2% of senior lecturers/lecturers, and 15.9% of researchers in clinical medicine were female. The proportion of professors who are female rose from 4.4% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 11.4% and the proportion of researchers who are female has remained at essentially the same level being 16.1% in 2006/07.

82.7% of UK academic staff of known ethnicity are White, which is a relatively low proportion compared to other cost centres, and 97.5% of academic staff of known disability status have no known disability.

Male and female researchers have different patterns of previous employment with around 15% of men and 20% of women moving from other UK HEIs or research institutions, 14% of men and 17% of women were previously in an overseas HEI/research institution and 46% of men and 38% of women taking a post having previously been a student. The numbers of female researchers with known leaving destinations is too low to draw firm conclusions. Overall though 10% of researchers move on to other employment or self-employment in the UK or overseas, and 27% are reported as not being in regular employment.

Among senior lecturers/lecturers there are some differences in the patterns of previous employment of men and women. 50% of males and 52% of females were previously in UK

HEIs/research institutions,\* 10% of males and females were in overseas HEIs/research institutions, 8% of both men and women were in other education institutions in the UK or overseas, 18% of men and 14% of women were in the public or private sector in the UK and 9% of men and 11% of women were in other employment or self-employed in the UK or overseas. There are too few women leavers to draw any firm conclusions on differences between the leaving destinations of men and women. Overall 10% move on to posts in other HEIs/research institutions in the UK, and 27% move to other employment or self-employment in the UK or overseas, 27% were reported as not being in regular employment and 14% retired or died.

### General engineering

In 2011/12 9.1% of professors, 20.7% of senior lecturers/lecturers, and 23.1% of researchers in general engineering were female. The proportion of professors who are female rose from 5.6% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 18.9% and the proportion of researchers who are female has risen from 20.5%.

91.3% of UK academic staff of known ethnicity are White and 96.2% of academic staff of known disability status have no known disability.

Male and female researchers have different patterns of previous employment with around 21% of men and 24% of women moving from other UK HEIs or research institutions, 12% of men and 16% of women were previously in an overseas HEI/research institution, 14% of men and 10% of women were in the public or private sector, 8% of men and 16% of women were in other employment or self-employment in the UK or abroad, and 38% of men and 30% of women taking a post having previously been a student. The leaving destinations of male and female researchers are also different. 19% of male researchers and 15% of female researchers move on to posts in UK HEIs/research institutions, 14% of males and 11% of females move to HEIs/research institutions abroad, 16% of males and 11% of females move to the public or private sector in the UK, 17% of males and 21% of females move on to other employment or self-employment in the UK or overseas, and 15% of males and 23% of females are reported as not being in regular employment.

Among senior lecturers/lecturers there are some differences in the patterns of previous employment of men and women. 40% of males and 36% of females were previously in UK HEIs/research institutions,\* 12% of men and 15% of women were in other education institutions in the UK or overseas, 29% of men and 26% of women were in the public or private sector in the UK and 11% of men and 15% of women were in other employment or self-employed in the UK or overseas. There are too few women leavers to draw any firm conclusions on differences between the leaving destinations of men and women. Overall 13% move on to posts in other HEIs/research institutions in the UK, and 11% move to other employment or self-employment in the UK or overseas, 28% were reported as not being in regular employment and 25% retired or died.

### Geography

In 2011/12 19.6% of professors, 36.8% of senior lecturers/lecturers, and 46.3% of researchers in geography were female. The proportion of professors who are female rose from 14.8% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 29.7% and the proportion of researchers who are female has risen from 44.7%.

95.8% of UK academic staff of known ethnicity are White and 96.6% of academic staff of known disability status have no known disability.

Male and female researchers have similar patterns of previous employment with around 33% of men and 31% of women moving from other UK HEIs or research institutions, 16% of men and 18% of women were previously in an overseas HEI/research institution, 12% of men and women were in other employment or self-employed in the UK or overseas, and 24% of men and 25% of women took a post having previously been a student. Numbers of researchers with known leaving destinations are too small to draw any firm conclusions on differences between men and women. Overall, 26% of researchers move on to posts in UK HEIs/research institutions, 16% move on to overseas HEIs/research institutions, 17% to other employment or self-employment in the UK or abroad, and 25% are reported as not being in regular employment.

Among senior lecturers/lecturers there are similarities in the patterns of previous employment of men and women. 66% of both men and women were previously in UK HEIs/research institutions,\* and 11% of both men and women were in overseas HEIs/research institutions. There are too few leavers with known destinations to draw any conclusions.

#### Health & community studies

In 2011/12 43.8% of professors, 68.2% of senior lecturers/lecturers, and 73.2% of researchers in health & community studies were female. The proportion of professors who are female fell from 44.2% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 65.8% and the proportion of researchers who are female has fallen from 77.0%.

92.6% of UK academic staff of known ethnicity are White and 93.8% of academic staff of known disability status have no known disability.

Male and female researchers have different patterns of previous employment with around 46% of men and 33% of women moving from other UK HEIs or research institutions, 12% of men and 16% of women were previously in an overseas HEI/research institution, 19% of men and 14% of women were in health-related roles in the UK or abroad, 8% of men and 15% of women were in the public or private sector, 7% of men and 10% of women were in other employment or self-employment in the UK or abroad, and 16% of both men and women took a post having previously been a student. There are too few male researchers with known leaving destinations to draw any firm conclusions on the differences between the leaving destinations of men and women. Overall, 25% of researchers move on to posts in UK HEIs/research institutions and 40% of researchers are reported as not being in regular employment.

There are some differences in the previous employments of male and female senior lecturers/lecturers. 27% of males and females were previously in UK HEIs/research institutions,\* 9% of men and 11% of women were in other education institutions in the UK or overseas, 15% of men and 20% of women were in health-related roles in the UK and overseas, 29% of men and 25% women were in the public or private sector and 16% of men and 13% of women were in other employment or self-employed in the UK or overseas. There are some differences between the leaving destinations of men and women. 15% of men and 14% of women move on to posts in other HEIs/research institutions in the UK, 11% of men and 15% of women move to other employment or self-employment in the UK or overseas. 28% of men and 24% of women were reported as not being in regular employment, and 25% of men and 21% of women retired or had died.

#### IT & systems sciences, computer software engineering

In 2011/12 13.0% of professors, 23.6% of senior lecturers/lecturers, and 19.6% of researchers in IT & systems sciences, computer software engineering were female. The proportion of professors who

are female rose from 10.8% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 25.5% and the proportion of researchers who are female has fallen from 21.3%.

89.3% of UK academic staff of known ethnicity are White and 96.2% of academic staff of known disability status have no known disability.

Male and female researchers have different patterns of previous employment with around 22% of men and 32% of women moving from other UK HEIs or research institutions, 16% of men and 14% of women were previously in an overseas HEI/research institution, 13% of men and 9% of women were in the public or private sector in the UK, and, 34% of men and 28% of women took a post having previously been a student. There are too few male researchers with known leaving destination to draw any firm conclusions on the differences between the leaving destinations of men and women. Overall, 25% of researchers move on to posts in UK HEIs/research institutions and 40% of researchers are reported as not being in regular employment.

There are some differences in the previous employment of male and female senior lecturers/lecturers. 47% of both men and women were previously in UK HEIs/research institutions,\* 10% of men and 7% of women were previously in overseas HEIs/research institutions, 11% of men and 17% of women were in other education institutions in the UK or overseas, 20% of men and 17% women were in the public or private sector in the UK, and 10% of men and 9% of women were in other employment or self-employed in the UK or overseas. There are some differences between the leaving destinations of men and women. 10% of men and 7% of women move on to posts in other HEIs/research institutions in the UK, 16% of men and 23% of women move to other employment or self-employment in the UK or overseas. 29% of men and 35% of women were reported as not being in regular employment, and 23% of men and 21% of women retired or had died.

### Mathematics

In 2011/12 7.4% of professors, 27.4% of senior lecturers/lecturers, and 21.8% of researchers in mathematics were female. The proportion of professors who are female rose from 4.3% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 23.1% and the proportion of researchers who are female has risen from 19.0%.

93.6% of UK academic staff of known ethnicity are White and 97.6% of academic staff of known disability status have no known disability.

Male and female researchers have different patterns of previous employment with around 26% of men and 23% of women moving from other UK HEIs or research institutions, 29% of men and 21% of women were previously in an overseas HEI/research institution, and, 29% of men and 41% of women took a post having previously been a student. There are too few female researchers with known leaving destinations to draw any firm conclusions on the differences between the leaving destinations of men and women. Overall, 27% of researchers move on to posts in UK HEIs/research institutions, 32% move to overseas HEIs/research institutions and 19% of researchers are reported as not being in regular employment.

There are some differences in the previous employments of male and female senior lecturers/lecturers. 47% of men and 43% of women were previously in UK HEIs/research institutions,\* 24% of men and 13% of women were previously in overseas HEIs/research institutions, 11% of men and 21% of women were in other education institutions in the UK or overseas, 8% of men and 9% of women were in the public or private sector in the UK, and 6% of men and 8% of

women were in other employment or self-employed in the UK or overseas. There are too few women leavers to draw any firm conclusions on differences between the leaving destinations of men and women. Overall 10% move on to posts in other HEIs/research institutions in the UK, 11% move on to posts in other HEIs/research institutions abroad, 12% move to other employment or self-employment in the UK or overseas, 31% were reported as not being in regular employment and 15% retired or died.

#### Mechanical, aeronautical & production engineering

In 2011/12 5.0% of professors, 15.3% of senior lecturers/lecturers, and 20.5% of researchers in mechanical, aeronautical & production engineering were female. The proportion of professors who are female rose from 4.7% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 12.6% and the proportion of researchers who are female has risen from 18.4%.

88.4% of UK academic staff of known ethnicity are White and 97.5% of academic staff of known disability status have no known disability.

Male and female researchers have different patterns of previous employment with around 17% of men and 23% of women moving from other UK HEIs or research institutions, 10% of men and 11% of women were previously in an overseas HEI/research institution, 15% of men and 12% of women were in the public or private sector in the UK, and, 40% of men and 33% of women took a post having previously been a student. There are too few female researchers with known leaving destination to draw any firm conclusions on the differences between the leaving destinations of men and women. Overall, 22% of researchers move on to posts in UK HEIs/research institutions, 21% move to other employment or self-employment in the UK or overseas, and 26% of researchers are reported as not being in regular employment.

There are differences in the previous employments of male and female senior lecturers/lecturers. 45% of males and 53% of females were previously in UK HEIs/research institutions,\* 9% of males and 6% of females were previously in overseas HEIs/research institutions, 6% of men and 11% of women were in other education institutions in the UK or overseas, 26% of men and 17% women were in the public or private sector, and 10% of men and 9% of women were in other employment or self-employed in the UK or overseas. There are too few women leavers to draw any firm conclusions on differences between the leaving destinations of men and women. Overall 8% move on to posts in other HEIs/research institutions in the UK, 30% move to other employment or self-employment in the UK or overseas, 32% were reported as not being in regular employment and 13% had retired or died.

#### Mineral, metallurgy & materials engineering

In 2011/12 10.4% of professors, 26.8% of senior lecturers/lecturers, and 28.5% of researchers in mineral, metallurgy & materials engineering were female. The proportion of professors who are female rose from 6.5% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 21.4% and the proportion of researchers who are female has risen from 23.8%.

89.5% of UK academic staff of known ethnicity are White and 97.4% of academic staff of known disability status have no known disability.

Male and female researchers have different patterns of previous employment with around 24% of men and 17% of women moving from other UK HEIs or research institutions, 14% of men and 19% of

women were previously in an overseas HEI/research institution, 6% of men and 10% of women were in the public or private sector in the UK, and, 41% of men and 40% of women took a post having previously been a student. There are too few female researchers with known leaving destination to draw any firm conclusions on the differences between the leaving destinations of men and women. Overall, 24% of researchers move on to posts in UK HEIs/research institutions, 23% of researchers move on to posts in overseas HEIs/research institutions, 14% move to the public or private sector in the UK, 12% move to other employment or self-employment in the UK or overseas, and 19% of researchers are reported as not being in regular employment.

There are too few female senior lecturers/lecturers with known previous employment to discern differences between the patterns for men and women. Overall, 52% of senior lecturers/lecturers were previously in UK HEIs/research institutions,\* 13% were previously in overseas HEIs/research institutions, 14% were in the public or private sector in the UK, and 12% were in other employment or self-employed in the UK or overseas. There are too few leavers to draw any firm conclusions.

#### Nursing & paramedical studies

In 2011/12 58.2% of professors, 74.0% of senior lecturers/lecturers, and 79.6% of researchers in nursing & paramedical studies were female. The proportion of professors who are female rose from 62.4% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has been steady being 73.7% and 79.2%, respectively, in 2006/07.

93.8% of UK academic staff of known ethnicity are White and 94.9% of academic staff of known disability status have no known disability.

Male and female researchers have different patterns of previous employment with around 31% of men and 39% of women moving from other UK HEIs or research institutions, 17% of men and 14% of women were in health-related roles in the UK and overseas, 14% of men and 13% of women were in the public or private sector, 10% of men and 9% of women were in other employment or self-employment in the UK or overseas, and, 11% of men and 14% of women took a post having previously been a student. There are too few male researchers with known leaving destination to draw any firm conclusions on the differences between the leaving destinations of men and women. Overall, 28% of researchers move on to posts in UK HEIs/research institutions, and 35% of researchers are reported as not being in regular employment.

There are differences in the previous employments of male and female senior lecturers/lecturers. 23% of males and 19% of females were previously in UK HEIs/research institutions,\* 9% of men and 8% of women were in other education institutions in the UK or overseas, 46% of men and 52% of women were in health-related roles in the UK or overseas, and, 12% of men and 13% women were in the public or private sector in the UK. There are differences between the leaving destinations of men and women. 13% of men and 10% of women move on to posts in other HEIs/research institutions in the UK, 7% of men and 9% of women move to health-related roles in the UK or overseas, 8% of men and 12% of women move to other employment or self-employment in the UK or overseas, 29% of men and 26% of women were reported as not being in regular employment, and 38% of men and 33% of women had retired or had died.

#### Pharmacy & pharmacology

In 2011/12 19.8% of professors, 48.9% of senior lecturers/lecturers, and 55.9% of researchers in pharmacy & pharmacology were female. The proportion of professors who are female rose from

17.7% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 41.1% and the proportion of researchers who are female has risen from 49.9%.

88.0% of UK academic staff of known ethnicity are White and 98.2% of academic staff of known disability status have no known disability.

Male and female researchers have similar patterns of previous employment with around 26% of both men and women moving from other UK HEIs or research institutions and 11% of men and women were previously in an overseas HEI/research institution. 10% of men and 75 of women were in public or private sector employment, and 38% of men and 40% of women took a post having previously been a student. The leaving destinations of male and female researchers are different. 21% of male researchers and 30% of female researchers move on to posts in UK HEIs/research institutions, 10% of males and 7% of females move to HEIs/research institutions abroad, 12% of males and 7% of females move to the public or private sector in the UK, 12% of males and 11% of females move on to other employment or self-employment in the UK or overseas, and 31% of males and 27% of females are reported as not being in regular employment.

There are differences in the previous employments of male and female senior lecturers/lecturers. 52% of males and 35% of females were previously in UK HEIs/research institutions,\* 11% of men and 6% of women were in other education institutions in the UK or overseas, 13% of men and 27% of women were in health-related roles in the UK or overseas, 10% of men and 13% women were in the public or private sector in the UK, and, 8% of men and 13% of women move to other employment or self-employment in the UK or overseas. There too few senior lecturers/lecturers with known destinations to draw any conclusions.

### Physics

In 2011/12 7.0% of professors, 20.3% of senior lecturers/lecturers, and 19.2% of researchers in physics were female. The proportion of professors who are female rose from 5.2% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 13.0% and the proportion of researchers who are female has risen from 17.6%.

95.0% of UK academic staff of known ethnicity are White and 98.1% of academic staff of known disability status have no known disability.

Male and female researchers have different patterns of previous employment with around 21% of men and 17% of women moving from other UK HEIs or research institutions, 28% of men and 30% of women were previously in an overseas HEIs/research institution, and, 34% of men and 36% of women took a post having previously been a student. The leaving destinations of male and female researchers are similar. 23% of male researchers and 24% of female researchers move on to posts in UK HEIs/research institutions, 30% of males and 29% of females move to HEIs/research institutions abroad, 16% of both males and females move on to other employment or self-employment in the UK or overseas, and 14% of males and 20% of females are reported as not being in regular employment.

There are some differences in the previous employments of male and female senior lecturers/lecturers. 52% of men and women were previously in UK HEIs/research institutions,\* 32% of men and 21% of women were previously in overseas HEIs/research institutions, and 4% of men and 10% of women were in other employment or self-employed in the UK or overseas. There too few senior lecturers/lecturers with known destinations to draw any conclusions.



### Psychology & behavioural sciences

In 2011/12 28.8% of professors, 61.0% of senior lecturers/lecturers, and 67.5% of researchers in psychology & behavioural sciences were female. The proportion of professors who are female rose from 27.0% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 53.1% and the proportion of researchers who are female has risen from 66.1%.

94.5% of UK academic staff of known ethnicity are White and 96.0% of academic staff of known disability status have no known disability.

There are some differences in the previous employment of researchers. 25% of both men and women moved from other UK HEIs or research institutions, 15% of men and 11% of women were previously in an overseas HEI/research institution, 3% of men and 12% of women were in the public or private sector in the UK, 6% of men and 10% of women were in other employment or self-employment in the UK or abroad, and 41% of men and 29% of women took a post having previously been a student. The leaving destinations of male and female researchers are different. 29% of male researchers and 24% of female researchers move on to posts in UK HEIs/research institutions, 16% of males and 11% of females move to HEIs/research institutions abroad, 12% of males and 11% of females move on to other employment or self-employment in the UK or overseas, and 27% of males and 36% of females are reported as not being in regular employment.

There are differences in the previous employments of male and female senior lecturers/lecturers. 57% of men and 53% of women were previously in UK HEIs/research institutions,\* 11% of men and 6% of women were in overseas HEIs/research institutions, 8% of men and 10% of women were in other education institutions in the UK or overseas, 6% of men and 10% of women were in health-related roles in the UK or overseas, 9% of both men and women were in the public or private sector in the UK, and, 7% of men and 9% of women were in other employment or self-employment in the UK or overseas. There are also some differences between the leaving destinations of men and women. 23% of men and 22% of women move on to posts in other HEIs/research institutions in the UK, 13% of men and 18% of women move to other employment or self-employment in the UK or overseas, 19% of men and 26% of women were reported as not being in regular employment, and 17% of men and 10% of women had retired or had died.

### Sports science & leisure studies

In 2011/12 16.0% of professors, 39.2% of senior lecturers/lecturers, and 47.0% of researchers in sports science & leisure studies were female. The proportion of professors who are female has remained steady over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 36.5% and the proportion of researchers who are female has fallen from 52.2%.

97.8% of UK academic staff of known ethnicity are White and 97.4% of academic staff of known disability status have no known disability.

There are too few sports science & leisure studies researchers with known previous employment or leaving destinations to draw any firm conclusions.

The previous employments of male and female senior lecturers/lecturers are similar. 42% of males and 40% of females were previously in UK HEIs/research institutions,\* 21% of men and 20% of women were in other education institutions in the UK or overseas, 16% of men and 17% of women were in the public or private sector in the UK, 13% of men and women were in other employment or

self-employment in the UK or overseas. There are too few women leavers to draw any firm conclusions on differences between the leaving destinations of men and women. Overall 23% move on to posts in other HEIs/research institutions in the UK, 11% move to other education institutions in the UK or abroad, 20% move to other employment or self-employment in the UK or overseas, 27% were reported as not being in regular employment and 7% had retired or died.

#### Veterinary science

In 2011/12 24.6% of professors, 45.5% of senior lecturers/lecturers, and 60.8% of researchers in veterinary science were female. The proportion of professors who are female rose from 16.7% over the six years from 2006/07, the proportion of senior lecturers/lecturers who are female has risen from 38.7% and the proportion of researchers who are female has remained steady being 60.9% in 2006/07.

96.1% of UK academic staff of known ethnicity are White and 97.7% of academic staff of known disability status have no known disability.

There are differences in the previous employment of researchers. 37% of men and 34% of women moved from other UK HEIs or research institutions, 21% of men and 9% of women were previously in an overseas HEI/research institution, 8% of men and 16% of women were in the public or private sector in the UK, 5% of men and 10% of women were in other employment or self-employment in the UK or abroad, and 23% of men and 27% of women took a post having previously been a student. There are too few leavers with known destinations to draw any conclusions.

The previous employments of male and female senior lecturers/lecturers are different. 50% of men and 40% of women were previously in UK HEIs/research institutions,\* 16% of men and 10% of women were in other education institutions in the UK or overseas, 19% of men and 21% of women were in the public or private sector in the UK, 11% of men and 12% of women were in other employment or self-employment in the UK or overseas. There are too few leavers with known destinations to draw any firm conclusions.

## Appendix: HESA STEM subject groups and subjects

For the purpose of this work the following subject groups and subjects are regarded as being STEM subject groups/subjects. Further details are available in Appendix 3 of the full report.

Subject Group	Subject
Medicine and Dentistry	Clinical dentistry
	Clinical medicine
	Others in medicine & dentistry
	Pre-clinical dentistry
	Pre-clinical medicine
Subjects allied to Medicine	Broadly-based programmes within subjects allied to medicine
	Medical technology
	Nursing
	Nutrition
	Ophthalmics
	Anatomy, physiology & pathology
	Aural & oral sciences
	Complementary medicine
	Others in subjects allied to medicine
	Pharmacology, toxicology & pharmacy
Architecture, Building and Planning	Architecture
	Broadly-based programmes within architecture, building & planning
	Building
	Landscape design
	Others in architecture, building & planning
	Planning (urban, rural & regional)
Biological Sciences	Biology
	Botany
	Broadly-based programmes within biological sciences
	Genetics
	Microbiology
	Zoology
	Molecular biology, biophysics & biochemistry
	Others in biological sciences
	Psychology
	Sports science
Engineering	Broadly-based programmes within engineering & technology
	Civil engineering
	General engineering
	Mechanical engineering
	Aerospace engineering
	Chemical, process & energy engineering
	Electronic & electrical

	Naval architecture
	Others in engineering
	Production & manufacturing engineering
Mathematical and Computer Sciences	Artificial intelligence
	Mathematics
	Operational research
	Others in mathematical sciences
	Software engineering
	Statistics
	Computer science
	Information systems
	Others in computing sciences
Physical Sciences	Astronomy
	Broadly-based programmes within physical sciences
	Chemistry
	Geology
	Materials science
	Physics
	Forensic & archaeological science
	Ocean sciences
	Others in physical sciences
Physical & terrestrial geographical & environmental sciences	
Technologies	Maritime technology
	Metallurgy
	Minerals technology
	Ceramics & glasses
	Industrial biotechnology
	Materials technology not otherwise specified
	Others in technology
Polymers & textiles	
Veterinary Sciences, Agriculture and related subjects	Agriculture
	Food & beverage studies
	Forestry
	Animal science
	Clinical veterinary medicine & dentistry
	Others in veterinary sciences, agriculture & related subjects
	Pre-clinical veterinary medicine

*This document was prepared for the Royal Society by Sean McWhinnie of **Oxford Research and Policy**. **Oxford Research and Policy** is a consultancy that carries out research and evaluation, and specialises in higher education, science policy, and equality and diversity.*

*Tel: +44 (0)1235 439188*

*Email: [info@oxfordresearchandpolicy.co.uk](mailto:info@oxfordresearchandpolicy.co.uk)*