

## What can I do after I complete my course in geological science?

### Introduction

Making a choice about what to do after completing a geological sciences course requires some thought and can be difficult. You have many options. It is often easier to make decisions and choices if you know what students who recently finished courses have done. This document provides that information.

Each year, students who complete courses at higher education institutions in the UK are contacted about six months after they have obtained their qualification to find out what they are doing. This is referred to as the Destinations of Leavers from Higher Education (DLHE). All of the information collected by the institutions is sent to the Higher Education Statistics Agency (HESA) which compiles figures for the whole of the UK.

This document provides information about students who completed qualifications during the 2004-5 academic year, and for whom the geological sciences constituted at least half of their courses. The first destinations survey provides a 'snapshot' of qualifiers' activities shortly after they have completed courses leading to first degrees, masters and other postgraduate courses, and doctorates.

In addition to information about the main activities of qualifiers, more details are provided about those that enter further study or employment. For those who are employed, breakdowns are provided based on the type of work and the main activity of the employer, using modified versions of, respectively, the standard occupational classification (SOC) and the standard industrial classification (SIC). Although these classification schemes have been modified by HESA to better cover the employment of qualifiers from higher education institutions, they are still in a form that was originally designed for economic analyses, rather than careers information. However, an interpretation is provided to outline key considerations for graduate job seekers.

The Association of Graduate Careers Advisory Services (AGCAS) and the Higher Education Careers Services Unit have produced some information ('Options with geology' - see [www.prospects.ac.uk/links/geologydeg](http://www.prospects.ac.uk/links/geologydeg) about employment and further study options for students who complete first degree courses in the geological sciences). The information provided in this document should be used alongside other sources of information, such as the 'Options with geology' leaflet and information from University Geoscience departments and Careers Services.

## Summary of findings:

- More than three-quarters of first degree graduates are either in employment or further study 6 months after completing their courses (Fig 1).
- Almost one in five first degree graduates who is employed after 6 months is working as a geophysicist, geologist, mineralogist or other geoscientist (Fig 3).
- Many first degree graduates work for traditional employers of geoscientists, such as oil companies (Fig 4).
- After completing a masters and other postgraduate courses, a massive 91% enter work or further study within 6 months (Fig 5).
- More than two-thirds of those who are working within 6 months of finishing a masters or other postgraduate course are employed in geological or other scientific jobs (Fig 6).
- More than a quarter of those gaining a masters or other postgraduate qualification who find work within 6 months are employed in geological consultancy and prospecting (Fig 7).
- More than two-thirds of those completing doctorates and finding jobs within 6 months are employed as geoscientists or researchers (Fig 9).

## Qualifiers from first degree courses

In 2004-5, information was collected for approximately 945 students who completed first degree courses in the geological sciences, including about 560 male and 385 female qualification holders. The total number of qualifiers from first degree courses was about 1160, and 82% participated in the DLHE. The total number of qualifiers from first degree courses in all subjects was 256,460).

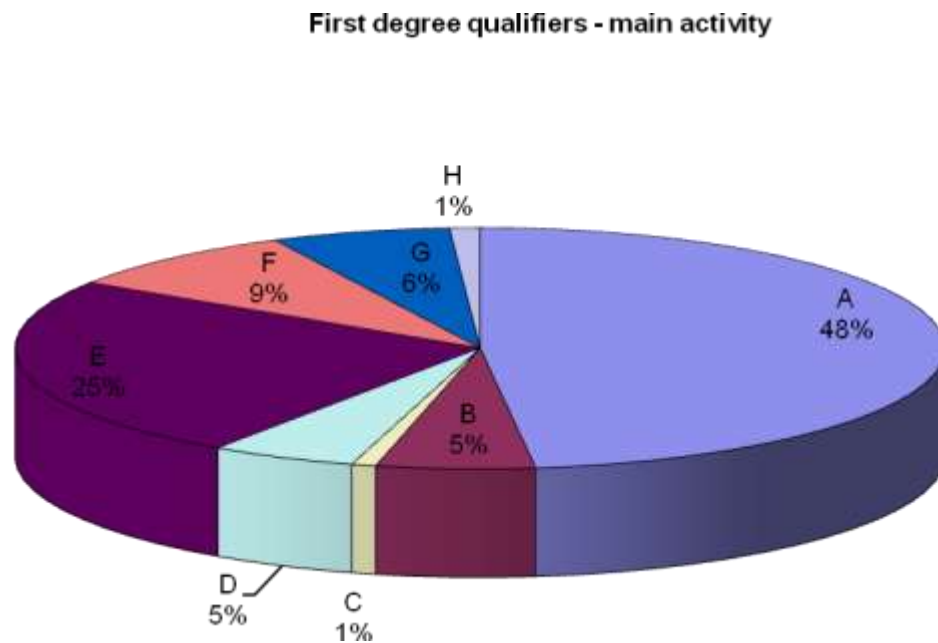
Figure 1 shows the main activity of the first degree course qualifiers. More than half were in some type of employment and over a quarter were undertaking more study. Fewer than one in ten was unemployed.

According to the publication 'What Do Graduates Do? 2007' ([http://www.prospects.ac.uk/cms/ShowPage/Home\\_page/What\\_do\\_graduates\\_do\\_2007/p!eaLidbl](http://www.prospects.ac.uk/cms/ShowPage/Home_page/What_do_graduates_do_2007/p!eaLidbl)), which gives information about first degree graduates of all disciplines in 2004-5, almost three-quarters were in employment and just over a quarter were in further study, with fewer than one in 17 unemployed. Therefore, graduates from first degree courses in the geological sciences were slightly more likely to be in further study or unemployed, and less likely to be in employment, compared with the total population of first degree graduates in all disciplines.

'What Do Graduates Do? 2007' also indicates that first degree graduates of all disciplines in the survey who entered full-time employment were earning an average salary of £17,697, although there was a wide range of pay levels. Starting salaries for an Engineering Geologist can be between £17,000-£25,000, with £16,500 for a Geological Mapper, £14,000-£21,000 for a Soil Scientist and £20,000-£29,000 for a Hydrogeologist. Details of these particular occupations can be found at [www.prospects.ac.uk/links/Occupations](http://www.prospects.ac.uk/links/Occupations) .

**Figure 1:**

"More than three-quarters of first degree graduates are either in employment or further study 6 months after completing their courses."

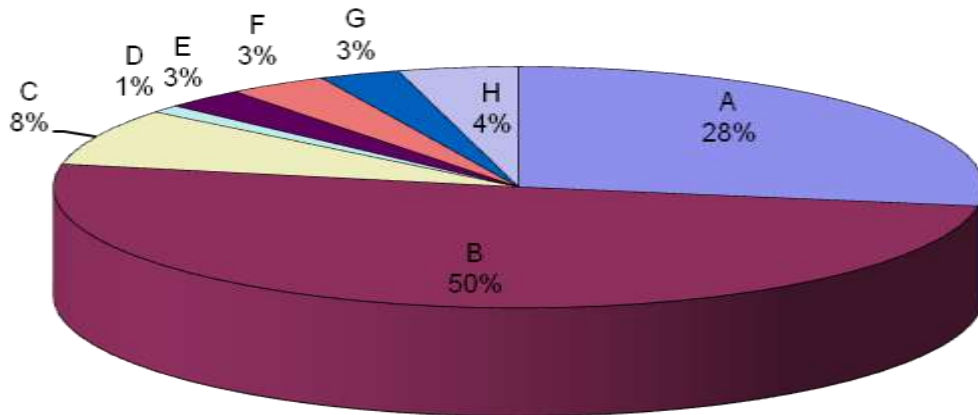


- A. Full-time paid work only (including self-employed)
- B. Part-time paid work only
- C. Voluntary/unpaid work only
- D. Work and further study
- E. Further study only
- F. Assumed to be unemployed
- G. Not available for employment
- H. Other

**Figure 2**

Of those first degree graduates who undertake further study (including those who are in employment at the same time), about half aim for a higher degree on taught courses, and more than a quarter aim for higher degrees by research. (For interpretation click [here](#)).

**First degree qualifiers undertaking more study - aim of qualification**

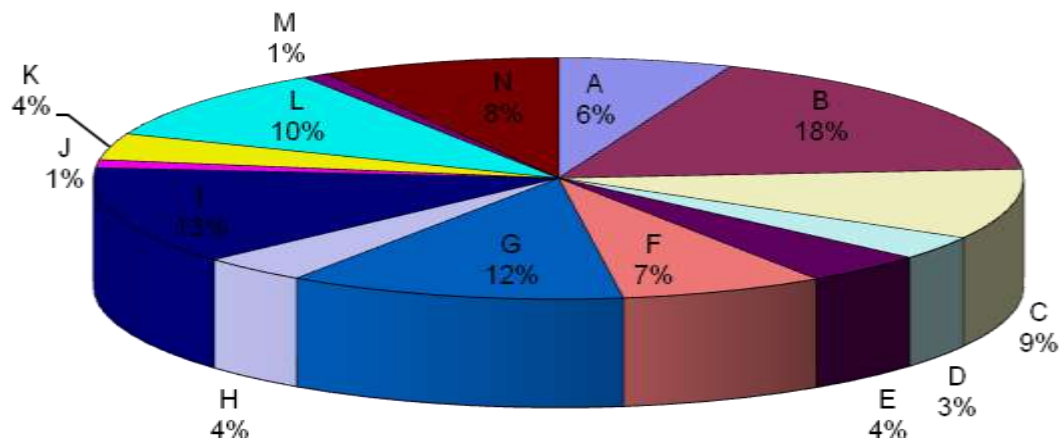


- A. Higher degree by research
- B. Higher degree by taught course
- C. Postgraduate diploma or certificate
- D. First degree
- E. Other diploma or certificate
- F. Professional qualification
- G. Other qualification
- H. Not aiming for a qualification

**Figure 3**

“Almost one in five first degree graduates who is employed after 6 months is working as a geophysicist, geologist, mineralogist or other geoscientist.” Nearly two-thirds of those in employment work in managerial, professional, associate professional and technical roles.

**First degree qualifiers in employment - type of work**

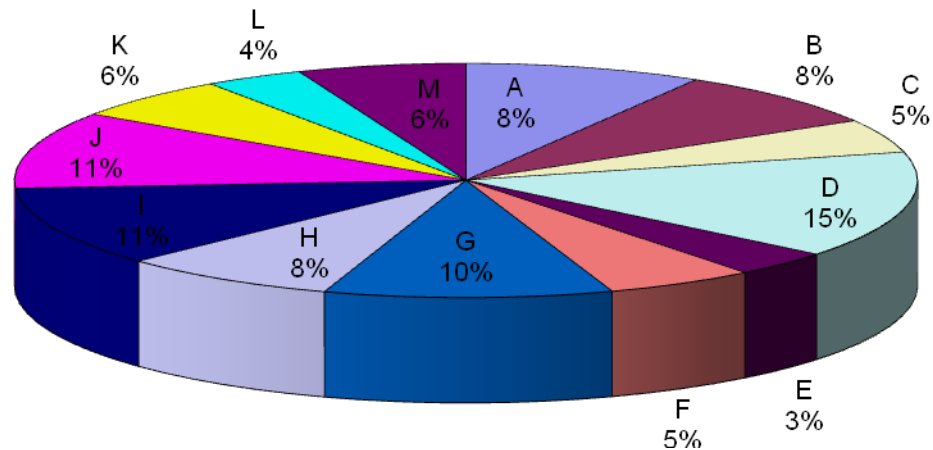


- A. Corporate managers, and managers and proprietors in agriculture and services
- B. Geophysicists, geologists, mineralogists, etc
- C. Other science and technology professionals
- D. Teaching and research professionals
- E. Health, business and public service professionals
- F. Science and technology associate professionals
- G. Business and public service associate professionals
- H. Other associate professional and technical occupations
- I. Administrative and secretarial occupations
- J. Skilled trades occupations
- K. Personal service occupations
- L. Sales and customer service occupations
- M. Process, plant and machine operatives
- N. Elementary administration, service and other occupations

**Figure 4**

“Many first degree graduates work for traditional employers of geoscientists, such as oil companies.” Those in jobs work for employers in a wide variety of sectors. (For interpretation click here).

**First degree qualifiers in employment - main activity of employer**



- A. Mining and quarrying
- B. Manufacturing; electricity, gas and water supply – should we add a note somewhere to flag that petroleum industry activities are included here?
- C. Construction
- D. Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; hotels and restaurants
- E. Transport, storage and communication
- F. Financial activities
- G. Architectural, engineering and other activities and related technical consultancy
- H. Geological consultancy and prospecting
- I. Other business activities
- J. Public administration and defence; social security
- K. Education
- L. Health and social work
- M. Other

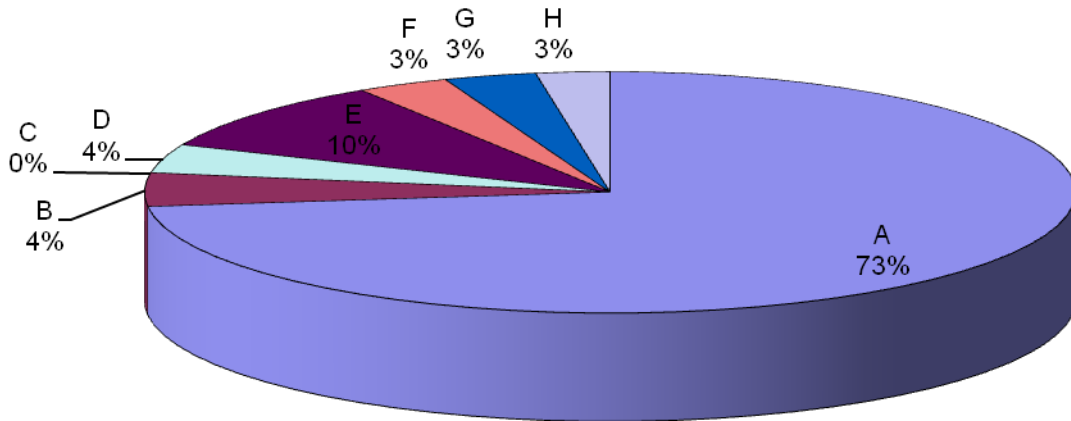
## Qualifiers from masters and other postgraduate qualification courses

Information was collected during the first destinations survey from about 155 students (about 95 male and 60 female) who completed masters and other postgraduate qualification courses. The total number of qualifiers from masters and other postgraduate qualification courses was about 245, and 64% participated in the DLHE.

### Figure 5

“After completing a masters and other postgraduate courses, a massive 91% enter work or further study within 6 months.” Almost three-quarters enter full-time paid employment, and fewer than one in 33 are unemployed. (For interpretation click here).

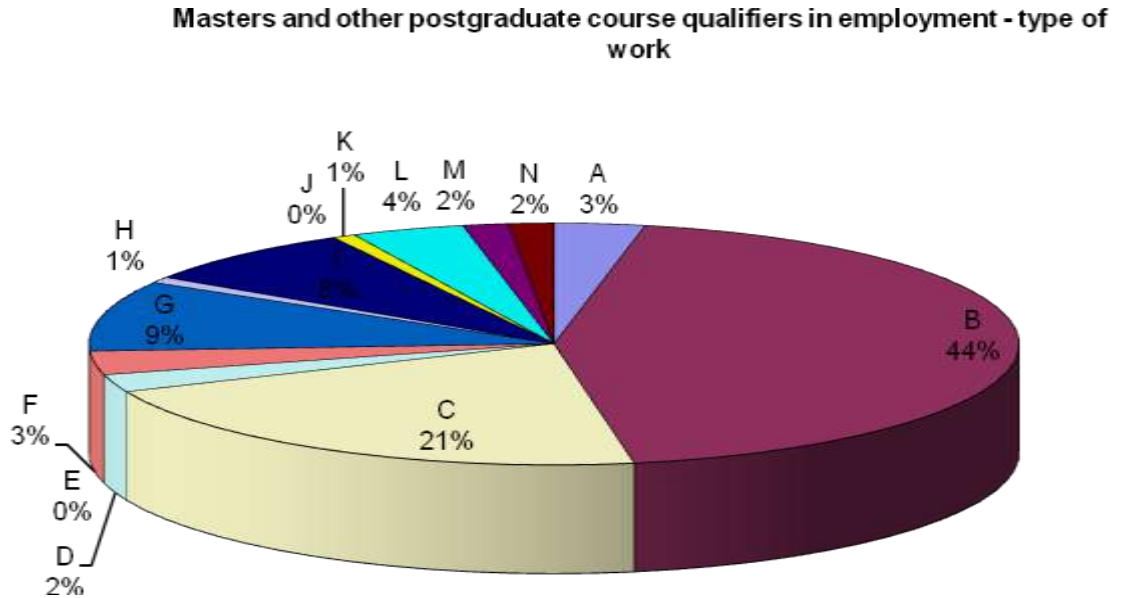
Masters and other postgraduate course qualifiers - main activity



- A. Full-time paid work only (including self-employed)
- B. Part-time paid work only
- C. Voluntary/unpaid work only
- D. Work and further study
- E. Further study only
- F. Assumed to be unemployed
- G. Not available for employment
- H. Other

**Figure 6**

“More than two-thirds of those who are working within 6 months of finishing a masters or other postgraduate course are employed in geological or other scientific jobs.”

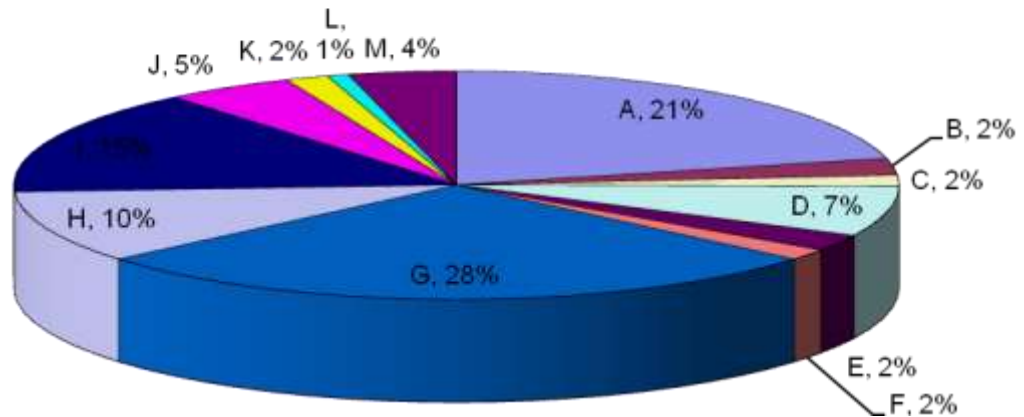


- A. Corporate managers, and managers and proprietors in agriculture and services
- B. Geophysicists, geologists, mineralogists, etc
- C. Other science and technology professionals
- D. Teaching and research professionals
- E. Health, business and public service professionals
- F. Science and technology associate professionals
- G. Business and public service associate professionals
- H. Other associate professional and technical occupations
- I. Administrative and secretarial occupations
- J. Skilled trades occupations
- K. Personal service occupations
- L. Sales and customer service occupations
- M. Process, plant and machine operatives
- N. Elementary administration, service and other occupations

**Figure 7**

“More than a quarter of those gaining a masters or other postgraduate course qualifications who find work within 6 months are employed in geological consultancy and prospecting.”

**Masters and other postgraduate course qualifiers in employment - main activity of employer**



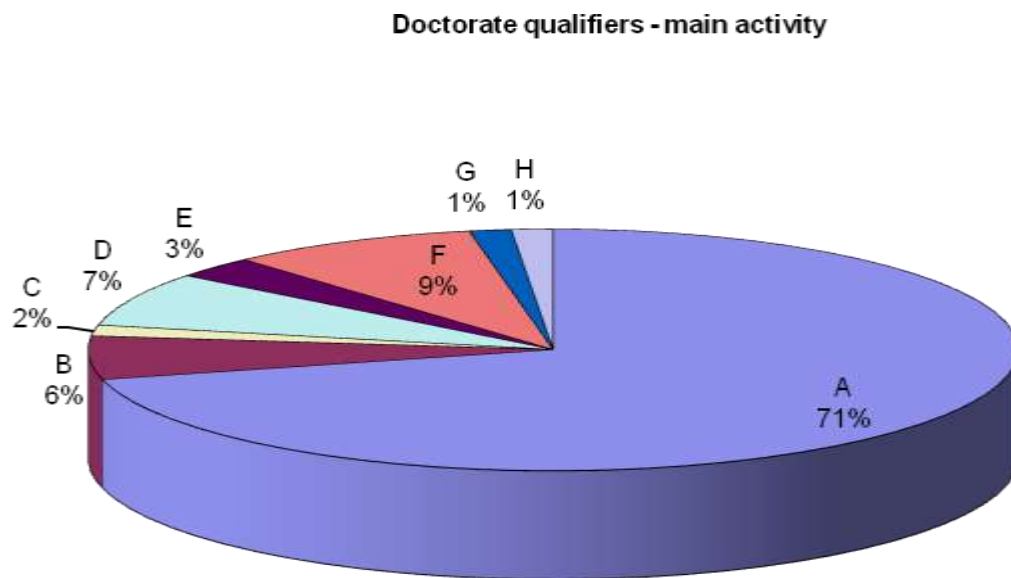
- A. Mining and quarrying
- B. Manufacturing; electricity, gas and water supply
- C. Construction
- D. Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; hotels and restaurants
- E. Transport, storage and communication
- F. Financial activities
- G. Architectural, engineering and other activities and related technical consultancy
- H. Geological consultancy and prospecting
- I. Other business activities
- J. Public administration and defence; social security
- K. Education
- L. Health and social work
- M. Other

## Qualifiers from doctorate courses

The first destinations survey collected information about approximately 70 students (almost equal numbers of male and female) who completed doctorates in 2004-5. The total number of qualifiers from doctorate courses was about 105, and 64% participated in the DLHE

### Figure 8:

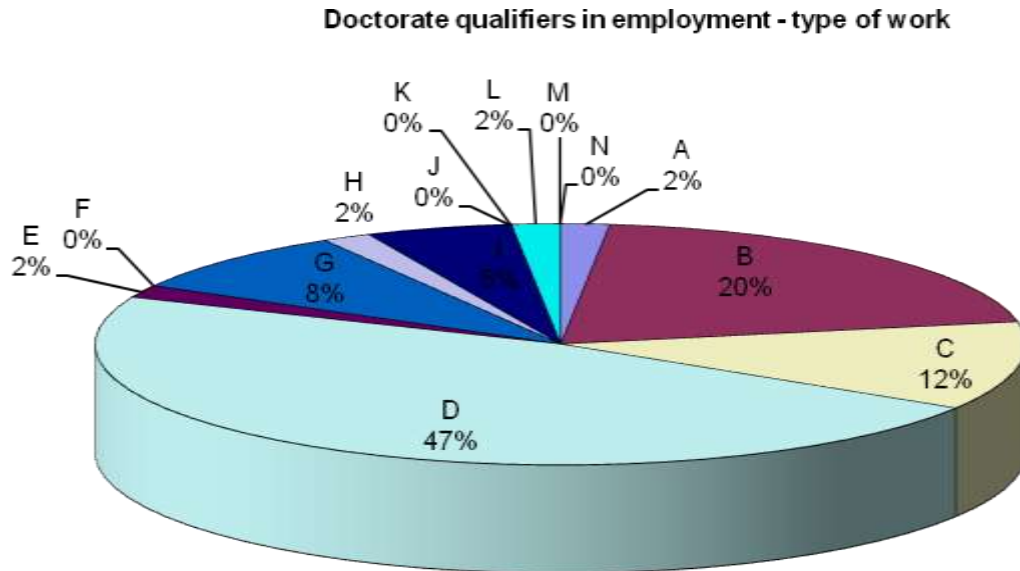
Nearly three-quarters of those completing doctorates are in full-time paid employment, and fewer than one in ten is unemployed.



- A. Full-time paid work only (including self-employed)
- B. Part-time paid work only
- C. Voluntary/unpaid work only
- D. Work and further study
- E. Further study only
- F. Assumed to be unemployed
- G. Not available for employment
- H. Other

**Figure 9:**

More than two-thirds of those completing doctorates and finding jobs within 6 months are employed as geoscientists or researchers. Nearly half work as teaching and research professionals, and one in five is employed as a geologist, geophysicist or other geological professional.

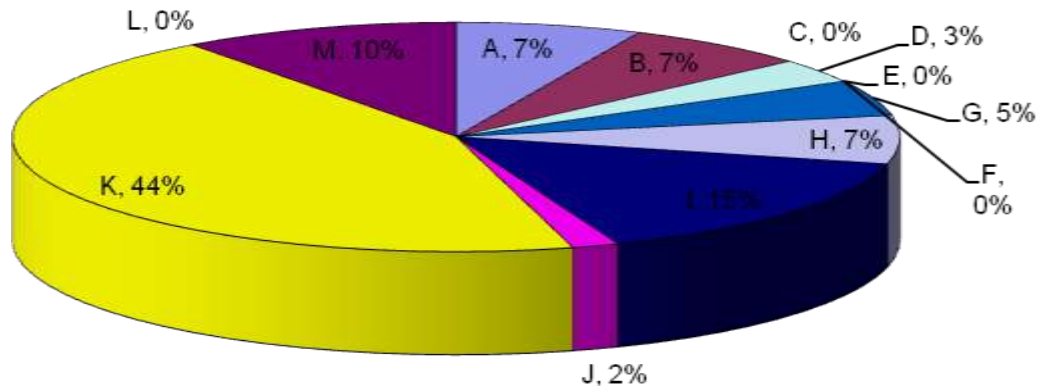


- A. Corporate managers, and managers and proprietors in agriculture and services
- B. Geophysicists, geologists, mineralogists, etc
- C. Other science and technology professionals
- D. Teaching and research professionals
- E. Health, business and public service professionals
- F. Science and technology associate professionals
- G. Business and public service associate professionals
- H. Other associate professional and technical occupations
- I. Administrative and secretarial occupations
- J. Skilled trades occupations
- K. Personal service occupations
- L. Sales and customer service occupations
- M. Process, plant and machine operatives
- N. Elementary administration, service and other occupations

**Figure 10:**

Almost half of doctorates are employed in the education sector and about one in fourteen is working for employers in the mining and quarrying sector.

**Doctorate qualifiers in employment - main activity of employer**



- A. Mining and quarrying
- B. Manufacturing; electricity, gas and water supply
- C. Construction
- D. Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods; hotels and restaurants
- E. Transport, storage and communication
- F. Financial activities
- G. Architectural, engineering and other activities and related technical consultancy
- H. Geological consultancy and prospecting
- I. Other business activities
- J. Public administration and defence; social security
- K. Education
- L. Health and social work
- M. Other

## **Further information**

### **Opportunities**

There is a range of sectors and job roles that geological science graduates can enter. Many graduates want to focus on a career that is related to their course. However, as 40% of all graduate jobs are open to degree holders of any discipline, some choose to rely on their transferable skills and go into other sectors such as accountancy, law, business and finance.

A significant proportion of 2005 first degree graduates in geological sciences (30%) undertook further study, of whom 78% commenced on higher degrees (Figure 2). This may have included transferring onto a MGeol course or studying a MRes or MSc. Of those entering further study, 8% studied for a postgraduate diploma or certificate, which may have included a Postgraduate Certificate in Education (PGCE) or a Graduate Diploma in Law (GDL).

### **Researching the sector**

In addition to assessing the various options for holders of a geological science degree, students and graduates must be prepared to research industries and sectors to find out the current trends and challenges. In this document, Figure 4 indicates the main activity of employers who recruit first degree qualifiers. The data shows that geological science graduates can be found in almost every sector. Employers often test an applicant's knowledge of the sector at an interview. Applicants can prepare for these questions by reading company information, careers information and talking to professionals working in the industry. It is also important to note that employment trends can fluctuate, depending on the state of the sector, and employers may want to check whether applicants are aware of such changes or developments. Comprehensive details on sectors of work can be found at [www.prospects.ac.uk/links/sectorBs](http://www.prospects.ac.uk/links/sectorBs).

### **Qualifications, Skills & Experience**

As the data in this document shows (see Figure 5), a masters or other postgraduate course qualification appears to secure full time paid work within 6 months of completing the course (73% compared to 48% of first degree qualifiers). Employers advertising positions relevant to geological science graduates often indicate that they require applicants to have higher level degrees and/or specialist knowledge e.g. hydrogeology, petroleum geology or engineering geology. However, this is not the only factor that employers look for in potential graduate candidates and it is possible to enter a graduate position within the sector without a higher level qualification. Work experience is a key component to attracting employers within the sector. This can be through a placement, internship, summer work or voluntary work. These experiences provide excellent opportunities for graduates to prove that they have the

necessary technical and transferable skills and attributes. These particular skills can also be demonstrated through projects, group work tasks, dissertations, as well as part-time employment or occasional work experiences. University Careers Services can provide help and support to students and graduates ensuring that these particular skills are fully demonstrated and explained in applications.

### **Making the most of campus events**

Although there is a relatively small number of geological science graduates each year in comparison to other disciplines, such as business studies, some jobs in geological sectors are competitive. Therefore, students and graduates are encouraged to make use of the events and presentations that employers attend on their university campus. These opportunities provide students and graduates with up to date and relevant careers information, tips on applying to specific companies, advice on the entry requirements for a range of organisations, as well as details on current job and placement opportunities. Membership of a professional body such as the Geological Society can provide useful networking events and help students and graduates to keep in touch with the latest developments in the sector.

## Appendix A

### Some notes about the methodology

The HESA survey includes both full-time and part-time students who completed courses between 1 August 2004 and 31 July 2005 ((© HESA Ltd). It records the activities of each qualifier as of 15 April 2005, if the qualification was obtained before 31 December 2004, and as of 16 January 2006 if the qualification was obtained afterwards. HESA definitions relating to these figures are available at Appendix A.

All individuals here have been treated as if the geological sciences constituted all of their courses, and full-time equivalents (FTEs) are not used. HESA requires that figures should be rounded to the nearest 0 or 5, and that percentages should only be used for populations of 52 or more.

The categories presented for type of work have been selected from the comprehensive SOC used by HESA in a way that best fits the data for qualifiers from courses in the geological sciences, and combines classifications at different levels of the SOC hierarchy. Similarly, the categories presented for type of employer have been chosen from the comprehensive SIC used by HESA.

### Definitions

The **HESA Destinations of Leavers from Higher Education (DLHE) target population** contains all United Kingdom (UK) and European Union (EU) domiciled students reported to HESA for the reporting period 1 August 2004 to 31 July 2005 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. The coverage differs from the population used in previous years for the First Destination Supplement (FDS) in a number of ways. Notably, those who obtained any of the relevant qualifications following part-time study are now included, together with those obtaining postgraduate diplomas and certificates (full-time or part-time). **London Metropolitan University has asked that its individual level data is not released at this time**

**Relevant qualifications** for inclusion in the total DLHE return for all disciplines are postgraduate degrees, postgraduate diplomas and certificates, Postgraduate Certificates in Education (PGCE), first degrees (excludes intercalated degrees), Diplomas of Higher Education (DipHE), Certificates of Higher Education (CertHE), Foundation Degrees, Higher National Diplomas (HND) or Higher National Certificates (HNC). The population for the DLHE return does not

necessarily represent the full cohort graduating during the reporting period; examples of those excluded are professional qualifications (e.g. associate membership or membership of a body such as the Institute of Bankers) and undergraduate diplomas and certificates (other than Foundation Degrees, HND, DipHE, HNC and CertHE).

The reference dates for this DLHE return were 15 April 2005 (if the leaver obtained the qualification between 1 August 2004 and 31 December 2004) and 16 January 2006 (if the leaver obtained the qualification between 1 January 2005 and 31 July 2005).

**Data in this survey is restricted to students whose course was made up of at least a 50% Geology component, that is:**

- **Students on a single Geology course**
- **Students on a balanced combination course with at least one element being Geology**
- **Students on a major/minor course with the major element being Geology**

### **Rounding strategy**

Due to the provisions of the Data Protection Act 1998 and the Human Rights Act 1998, HESA implements a strategy in published and released tabulations designed to prevent the disclosure of personal information about any individual. These tabulations are derived from the HESA non-statutory populations<sup>1</sup> and may differ slightly from those published by related statutory bodies. This strategy involves rounding all numbers to the nearest 5. A summary of this strategy is as follows:

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

So for example 3 is represented as 5, 22 is represented as 20, 3286 is represented as 3285 while 0, 20, 55, 3510 remain unchanged.

This rounding strategy is also applied to total figures; the consequence of which is that the sum of numbers in each row or column will rarely match the total shown precisely. Note that subject level data calculated by apportionment will also be rounded in accordance with this strategy.

Average values, proportions and FTE values prepared by HESA will not be affected by the above strategy, and will be calculated on precise raw numbers. However, percentages calculated on populations which contain 52 or fewer individuals will be suppressed and represented as '..' as will averages based on populations of 7 or less.

## **Level of qualification obtained**

**Postgraduate** qualifications are doctorate degrees, masters degrees, higher bachelors degrees, postgraduate diplomas and certificates, and PGCE. In some analyses doctorate degrees and PGCE are tabulated separately, and masters degrees, other higher degrees, postgraduate diplomas and certificates form another group (other postgraduate degrees).

**First degrees** are first degrees, first degrees with eligibility to register to practice (doctor/dentist/veterinary surgeon), first degrees with qualified teacher status (QTS)/registration with the General Teaching Council (GTC), enhanced first degrees and first degrees obtained concurrently with diplomas.

**Other undergraduate** qualifications are Foundation Degrees and all other higher education qualifications not included above which are within the scope of the DLHE return.

**Diplomas and Certificates includes: Diploma of Higher Education  
Certificate of Higher Education  
HNC**

**Full-time** includes full-time and sandwich study, plus those writing-up theses following full-time study.

## **The Standard Occupational Classification**

In 2003 HESA adopted the new SOC2000 Standard Occupational Classification (which replaced SOC90), for comparability of sector data with other areas of the economy. A variant of the SOC2000 was created for the coding of occupational information collected in the DLHE survey. The classification is termed SOC (DLHE) and details are available on the HESA website.

## **The Standard Industrial Classification**

The Standard Industrial Classification of economic activities (SIC) provides a framework for the collection, tabulation, presentation and analysis of data about economic activities. The present version (SIC(92)) is aligned with similar classifications in all member states of the European Union and is obligatory in all cases where the UK is required to transmit to the European Commission statistics broken down by economic activity.

## Employment categories

In the DLHE survey leavers are able to report separately what they are doing in relation to both employment and study and a matrix of possible outcomes is constructed. This matrix is used to define the key categories of outcomes such as employed and unemployed.

As leavers report separately what they are doing in relation to employment and further study, it is possible to be involved in either employment only, further study only or employment and further study. Therefore where the terms employment and further study are used, it is important to note that:

- **employment** includes those in employment only, and those in both employment and further study
- **further study** includes those in further study only, and those in both employment and further study.

## Matrix of standard categories for publication from DLHE

Employment circumstances	Full-time study (1)	Part-time study (2)	Not in study (3)
Employed full-time in paid work (01)	D	D	A
Employed part-time in paid work (02)	D	D	B
Self-employed/freelance (03)	D	D	A
Voluntary work/other unpaid work (15)	D	D	C
Permanently unable to work/retired (16)	G	G	G
Temporarily sick or unable to work/looking after the home or family (17)	E	E	G
Taking time out in order to travel (10)	G	G	G
Due to start a job within the next month (11)	E	F	F
Unemployed and looking for employment, further study or training (12)	E	F	F
Not employed but NOT looking for employment, further study or training (13)	E	E	O
Something else (14)	E	E	O
Question not answered (XX)	X	X	X

The values in brackets refer to valid values recorded for Employment Circumstances (field 5) and Study Circumstances (field 6) in the DLHE record.

### Publication categories

Full-time paid work	A
Part-time paid work	B
Voluntary/unpaid work only	C
Work & further study	D
Further study only	E
Assumed to be unemployed	F
Not available for employment	G
Other	O
Explicit refusal	X

### Employment

**Employment only** includes those graduates who reported that they were in full-time paid work (including self-employed/freelance), part-time paid work, voluntary or unpaid work, and who were not also in study, training or research.

**Full-time employment only** includes those who reported that they were in full-time paid work (including self-employed/freelance) and who were not also in study, training or research.

**Combination of work and further study** includes those who reported that they were in full-time paid work (including self-employed/freelance), part-time paid work, voluntary or unpaid work, and who were also in full-time or part-time study, training or research.

**Assumed to be unemployed** includes those students who gave their employment circumstances as unemployed and looking for employment, further study or training, and who were also either in part-time study, training or research or not studying, plus those who were due to start a job within the next month and who were also either in part-time study, training or research or not studying.

### Further study

**Further study only** includes those who gave their employment circumstances as temporarily sick or unable to work/looking after the home or family, not employed but not looking for employment, further study or training, or something else and who were also either in full-time or part-time study, training or research, plus those who were due to start a job within the next month or

unemployed and looking for employment, further study or training and who were also in full-time study, training or research.

**Type of qualification**

This field describes the type of qualification the HE leaver is aiming for.