‘Hydrogeology is the study of groundwater, a major component of the water cycle and the source of water for much of the world’s population. This course provides students who have a good scientific or engineering background with a comprehensive education in the fundamentals of groundwater science, together with considerable practical experience, in order to prepare them for tackling any groundwater problem in water supply, contamination, or engineering.’

Professor John Tellam, Programme Leader

Challenge what you know.
MSc Hydrogeology

Key features
- An interdisciplinary course for Science, Engineering and Mathematics graduates
- Covers all aspects of the basic science and engineering of groundwater for the long-term management of this valuable resource
- Practical, hands-on training in field and laboratory and computer modelling techniques
- Taught by a team of six groundwater specialists with backgrounds in Geosciences, Engineering, Mathematics, Chemistry, and Microbiology
- Extensive field, laboratory, analytical and computing facilities
- Longest running groundwater postgraduate course in the UK, very closely linked with the water industry both in the UK and overseas
- Excellent job prospects with worldwide career opportunities

Who is this programme aimed at?
This MSc is designed for those looking for a fascinating, varied career that contributes strongly to both human and environmental well-being. Students should have a good background in Science, Engineering or Mathematics – groundwater professionals come from a wide range of backgrounds, including geosciences, chemistry, physics, bioscience, mathematics, computer science, geography, environmental science, and engineering of various types.

How is the programme structured?
This is a full 12-month programme, though we also offer a ‘split registration’ option that allows the course to be taken over two years. The taught part of the course is divided between two terms of 11 weeks. The Autumn Term (September to December) includes a week of fieldwork where a range of field testing and sampling is undertaken on the University campus research borehole array, and visits are made to, for example, sites where groundwater remediation, wetland conservation, river augmentation, waste disposal, and drilling can be seen in action. Students also attend a national research conference. In the Spring Term (January to March), in addition to the taught modules, there is a programme of seminars involving outside speakers.

From May to August students undertake an individual project. Projects are often with groundwater/environmental consultants or with government bodies, or may be associated with research projects in the School. They may be based in the UK or overseas, and be focused on fieldwork, laboratory work, computer modelling, or on a combination of these.

The students have their own room where most lectures are delivered. When computers are required in the teaching sessions, use is made of the School’s Earth Imaging Laboratory.

Taught modules offered include:
- Groundwater Flow and Transport Theory;
- Hydraulic Properties; Regional Groundwater Flow Modelling;
- Surface Water Interactions;
- Environmental Geophysics;
- Borehole Design, Construction and Maintenance;
- Inorganic Chemistry and Groundwater;
- Organic Contaminant Hydrogeology;
- Contaminated Land – Groundwater Remediation;
- Contaminant Transport Modelling;
- Groundwater Management and Exploitation;
- Water Resources Studies.

Assessment
A variety of assessment methods are used in the taught part of the course, including formal examinations, individual and group coursework (eg, computer modelling), literature-based report writing, and oral presentations. In addition, the four month individual project is written up by students in a report typically of about 100 pages in length.

Careers
There are excellent employment opportunities for our graduates in the UK and overseas. Graduates find employment in specialist consultancies, research, industry, environmental regulation, and overseas development organizations.

Most students gain employment in consultancies. Hydrogeologists in a consultancy might be expected to provide advice on a range of problems, for example: water supply schemes ranging in size from individual dwellings to countries; regional aquifer management; contaminant migration and impact; domestic, industrial, or nuclear waste disposal facility design; groundwater remediation; dewatering for construction; ground source heat pump systems; well protection zones; surface water and ecosystem support; planning for climate change. Day-to-day work is often very varied, though there is also opportunity for specialising within the profession.

The course includes a Careers Day attended by around 20 organisations, and has a programme of distributing employment opportunities frequently sent to the course by employers.

Further details
For more information please visit www.birmingham.ac.uk/schools/gees/courses/postgraduate

How to apply
The quickest and most efficient method is to apply online. For further instructions on how to do so, please visit www.apply.bham.ac.uk. This allows you to complete the application process at your own pace, using our ‘save and return’ option.

Fees and funding
For the latest fees and funding information please visit www.birmingham.ac.uk/students/fees/postgraduate

Learn more
Programme Leader: Professor John Tellam
Tel: +44 (0) 121 414 6138
Email: j.h.tellam@bham.ac.uk

Course Administrator: Laura Benson
Tel: +44 (0)121 414 3260
Email: l.j.benson@bham.ac.uk

www.birmingham.ac.uk/schools/gees/courses

This brochure was written several months in advance of the start of the academic year. It is intended to provide prospective students with a general picture of the programmes and courses offered by the School. Please note that not all programmes or all courses are offered every year. Also, because our research is constantly exploring new areas and directions of study some courses may be dropped and new ones offered in their place.