University of Birmingham

Environmental Science with Professional Placement Abroad (Australasia) BSc (Hons)

Increasing awareness of the consequences of environmental degradation and human population growth, together with the need to conserve biodiversity and ensure the sustainability of human activities, is increasing demand for specialists capable of solving environmental problems. Our degree in Environmental Science has been designed to address this need and with the requirements of employers in mind. In joining us you will join one of the largest and most popular Schools in the UK that specialises in the environment.

On this four-year degree course you will undertake a year-long placement between your second and third years with the National Institute of Water and Atmosphere in New Zealand.

Our programmes in Environmental Science are accredited by the **Institution of Environmental Sciences (IES) (http://www.ies-uk.org.uk/)** .

Study here and find out why the University of Birmingham was awarded The Times and The Sunday Times University of the Year 2013-14 (http://www.birmingham.ac.uk/news/latest/2013/09/20-sep-Birmingham-announced-as-University-of-the-Year.aspx)

Course fact file

UCAS code: F850

Duration: 4 years

Places Available: 109 (all Environmental Science and Earth Sciences courses)

Applications in 2011: 301

Typical Offer: AAB (**More detailed entry requirements and the international qualifications accepted can be found in the course details (?OpenSection=EntryRequirements)**)

Start date: September

Related courses

Environmental Science BSc/MSci (Hons) (/undergraduate/courses/gees/environmental-science.aspx)

Contact

General admissions enquiries:
Student Recruitment Team
Tel: +44 (0)121 414 6162
Email: **ugenviroscienceadmissions@contacts.bham.ac.uk (mailto:ugenviroscienceadmissions@contacts.bham.ac.uk)**

School of Geography, Earth and Environmental Sciences (/schools/gees/index.aspx)

Details

Environmental science is at the heart of the major challenges that society faces both today and in the future. Only by having an in-depth understanding of the way the natural world functions, can we hope to make informed decisions on how to manage the environment for future generations. Environmental Science is the systematic scientific study of interactions between physical, chemical and biological processes in the environment and their applications in helping to solve environmental problems.

This programme has been designed to provide choice and flexibility whilst ensuring that you develop appropriate skills with a sound scientific foundation. The course includes both core modules taken by all Environmental Science students, and selected optional modules which allow you to concentrate on themes which are of particular interest to you. Field courses are held in the first (UK) and second (UK or overseas, depending on your interests in the subject) year of the degree programme. Transferable skills, including research techniques, data analysis and effective written and oral communication, are emphasised.

The course is designed around three critical environmental themes, **Pollution**, **Ecology** and **Policy**, thereby introducing all our students to the key topics, and allowing students to specialise according to their interests and career aspirations. Our research active teaching staff have expertise in these areas, ensuring that course content is fresh, topical and timely.

This programme will give you vocational training abroad to complement your university education. Environmental concerns and problems are truly global and exposure to these issues in another country will broaden your horizons and enhance your future career prospects as an Environmental Scientist. Countries like New Zealand conjure up images of pristine mountain ranges, native kauri forests, thermal hot springs and beautiful windswept beaches, but there are many pressing environmental concerns including agricultural intensification, groundwater depletion and contamination, sea-level rise, land erosion, and the impacts of exotic species introductions on native ecosystems.

Why study this course

Our programmes in Environmental Science are accredited by the **Institution of Environmental Sciences (IES) (http://www.ies-uk.org.uk/)** . Accreditation by this professional organisation reflects the high quality of our degree programmes and recognises the excellence in teaching, learning and research aligned with professional development and practice. Our external review highlighted the value of our wide ranging degree programme together with the quality of skills development in an applied setting.

Students enrolled on our Environmental Science programmes are eligible to become Student members of the IES at no cost for the duration of their studies. This provides students with access to resources related to careers, professional development and events together with preferential opportunities for internship placements at the IES. Membership also provides the first steps for students in achieving chartered status, a highly valued professional award for Environmental Scientists.

Choose Environmental Science at Birmingham and take the opportunity to examine some of the most significant environmental issues affecting 21st century society.

The degree programmes build upon the University of Birmingham's impressive record of environmental research. We are involved in many national and international research programmes, and have strong links with countries spanning the globe. Accordingly, you will have the freedom to study the great breadth of environmental problems in many regions of the world.

Closer to home we have significant experience of research on urban environments in Britain (80% of the UK population now live in urban areas). You will discover exciting new developments in sustainable urban living and learn about the links between air pollution and human health, and the challenges that are presenteed when managing urban systems. First-hand experience of Environmental Science research is provided by field-courses in the first and second years, which are tailored to the combination of modules you choose.

Modules

First year

Compulsory modules

- **Earth and Ecological Systems** (/schools/gees/courses/undergraduate/modules/environmental-science/earth-and-ecological-systems.aspx)
- **Global Environmental Issues** (/schools/gees/courses/undergraduate/modules/environmental-science/global-environmental-issues.aspx)
- **Environmental Chemistry and Physics** (/schools/gees/courses/undergraduate/modules/environmental-science/environmental-chemistry-and-physics.aspx)
- **Methods and Skills in Environmental Science** (/schools/gees/courses/undergraduate/modules/environmental-science/methods-and-skills-in-environmental-science.aspx)
- **Plant Sciences and Environmental Biology** (/schools/gees/courses/undergraduate/modules/environmental-science/plant-sciences-and-environmental-biology.aspx)
- **Sustainable Development: Economy and Environment** (/schools/gees/courses/undergraduate/modules/environmental-science/sustainable-development-economy-and-environment.aspx)

Second year

Compulsory modules

- **Geomatics** (/schools/gees/courses/undergraduate/modules/environmental-science/geomatics.aspx)
- **Environmental Transfer Processes** (/schools/gees/courses/undergraduate/modules/environmental-science/environmental-transfer-processes.aspx)
- **Advanced Research Methods in Environmental Science** (/schools/gees/courses/undergraduate/modules/environmental-science/advanced-research-methods-in-environmental-science.aspx)
- **Environmental Science Field Course** (/schools/gees/courses/undergraduate/modules/environmental-science/environmental-science-field-course.aspx)

Optional modules

- **Environmental Assessment and Management** (/schools/gees/courses/undergraduate/modules/environmental-science/environmental-assessment-and-management.aspx)
- **Reconstructing Quaternary Environments** (/schools/gees/courses/undergraduate/modules/environmental-science/reconstructing-quaternary-environments.aspx)
- **Hydroclimatology** (/schools/gees/courses/undergraduate/modules/environmental-science/hydroclimatology.aspx)
- **Geomorphological Processes** (/schools/gees/courses/undergraduate/modules/environmental-science/geomorphological-processes.aspx)
- **Ecological Systems** (/schools/gees/courses/undergraduate/modules/environmental-science/ecological-systems.aspx)
- **Practical and Applied Ecology** (/schools/gees/courses/undergraduate/modules/environmental-science/practical-and-applied-ecology.aspx)

Third year

You will spend eight months, from October to May between Year 2 and the final year, undertaking a placement with one of a variety of organisations in **New Zealand**.

They include:

- The National Institute of Water and Atmosphere
- A local regional council
- The Department of Conservation

Some placements may also be available in **Australia**.

Joining a project group in an area of interest, you will be trained in a range of field and laboratory techniques. You will also be responsible for your own project within this group, which you will write up as a professional placement report for academic credit.

Fourth year

Compulsory modules

- **Independent Research Exercise** (/schools/gees/courses/undergraduate/modules/environmental-science/independent-research-exercise.aspx)
- **Environmental Protection** (/schools/gees/courses/undergraduate/modules/environmental-science/environmental-protection.aspx)

Optional modules

- **Environment and Landscape Change** (/schools/gees/courses/undergraduate/modules/environmental-science/environment-and-landscape-change.aspx)
- **Wetland Environments** (/schools/gees/courses/undergraduate/modules/environmental-science/wetland-environments.aspx)
- **Weather Climate and Society** (/schools/gees/courses/undergraduate/modules/environmental-science/weather-climate-and-society.aspx)
- **Restoration of Freshwater Ecosystems** (/schools/gees/courses/undergraduate/modules/environmental-science/restoration-of-freshwater-ecosystems.aspx)
- **Landscape and Urban Ecology** (/schools/gees/courses/undergraduate/modules/environmental-science/landscape-and-urban-ecology.aspx)
- **Applied Micrometeorology** (/schools/gees/courses/undergraduate/modules/environmental-science/applied-micrometeorology.aspx)
- **Biodiversity and Conservation Management** (/schools/gees/courses/undergraduate/modules/environmental-science/biodiversity-and-conservation-management.aspx)
- **Environmental Governance** (/schools/gees/courses/undergraduate/modules/environmental-science/environmental-governance.aspx)
- **River Processes, Deposits and Environments** (/schools/gees/courses/undergraduate/modules/environmental-science/river-processes-deposits-and-environments.aspx)
- **Managing Geological Hazards and Anthropogenic Impacts** (/schools/gees/courses/undergraduate/modules/environmental-science/managing-geological-hazards-and-anthropogenic-impacts.aspx)
- **Conservation Biology** (/schools/gees/courses/undergraduate/modules/environmental-science/conservation-biology.aspx)
- **Adaptation to Changing Environments** (/schools/gees/courses/undergraduate/modules/environmental-science/adaptation-to-changing-environments.aspx)

Fees and funding

Standard fees (http://www.birmingham.ac.uk/students/ug/courses/fees/standard) apply - a standard fee for placement year abroad is set for 2012/13 new entrants at £2,500.
Learn more about **fees and funding** (/undergraduate/fees/loans.aspx)

Scholarships
Learn more about our **scholarships and awards** (/undergraduate/fees/funding/index.aspx)

Entry requirements

Number of A levels required: 3

Typical offer: AAB

Required subjects and grades: Two science subjects are required (Geography is considered a science). Grade C in each of GCSE English and Maths.

General Studies: We do not accept General Studies, Critical Studies, Critical Thinking, Science in Society, World Development, Communication and Culture, Citizenship Studies, Use of

Maths

Additional information:

Unconditional offers will be made to high-quality applicants who are predicted AAA or above at A level. For details see the **Unconditional Offer Scheme 2015 (http://www.birmingham.ac.uk/undergraduate/courses/unconditional-offer-scheme-2015.aspx)** .

Unconditional offers are based on:

- A Level predictions of AAA +
- AS results of at least ABB
- 5 GCSEs at grade A including English, Maths and a Science
- 2 GCSEs at grade B
- Academic reference
- Personal statement

Other qualifications are considered – see **entry requirements (http://www.birmingham.ac.uk/students/ug/requirements)** for full details.

International students:

International Baccalaureate Diploma: 35 points with 6, 6, 5 at HL including two HL science subjects (Geography is considered a science). Minimum of 5 in SL English and Maths if not offered at GCSE or equivalent.

Standard English language requirements apply
Learn more about **international entry requirements (http://www.birmingham.ac.uk/students/requirements/international)**

Depending on your chosen course of study, you may also be interested in the Birmingham Foundation Academy, a specially structured programme for international students whose qualifications are not accepted for direct entry to UK universities. Further details can be found on the **foundation academy web pages (http://www.birmingham.ac.uk/students/foundation-academy/Pathways/index.aspx)** .

How to apply

Apply through UCAS at **www.ucas.com (http://www.ucas.com/)**
Learn more about **applying (http://www.birmingham.ac.uk/students/ug/courses/apply)**

Key Information Set (KIS)

Key Information Sets (KIS) are comparable sets of information about full- or part-time undergraduate courses and are designed to meet the information needs of prospective students.

All KIS information has been published on the Unistats website and can also be accessed via the small advert, or 'widget', below. On the **Unistats website (http://unistats.direct.gov.uk)** you are able to compare all the KIS data for each course with data for other courses.

The development of Key Information Sets (KIS) formed part of HEFCE's work to enhance the information that is available about higher education. They give you access to reliable and comparable information in order to help you make informed decisions about what and where to study.

The KIS contains information which prospective students have identified as useful, such as student satisfaction, graduate outcomes, learning and teaching activities, assessment methods, tuition fees and student finance, accommodation and professional accreditation.

Learning and teaching

As a Birmingham student you are part of an academic elite and will learn from world-leading experts. From the outset you will be encouraged to become an independent and self-motivated learner, and we want you to be challenged and will encourage you to think for yourself.

As a student on our Environmental Science course, you can expect to learn through a range of different settings including lectures, seminars, laboratory classes and fieldwork, as well as through supplementary IT-based materials in addition to books and journals from the Library.

You will have opportunity to discuss and explore current topics in small tutorial groups and seminars. These discussions will help you to look at problems in different ways, whilst at the same time developing your research skills.

Take virtual tours of some of our facilities (http://www.birmingham.ac.uk/schools/gees/facili

There are numerous facilities at your disposal to help throughout your studies, including fully-equipped lecture theatres and tutorial rooms, laboratories housing state-of-the-art analytical facilities, a map room containing over a quarter of a million maps, and a specialist environmental library containing information on the latest environmental issues.

You will have access to a comprehensive support system throughout your time at Birmingham that will assist and encourage you, including personal tutors and welfare tutors who can help with both academic and welfare issues. In the induction week you will be allocated a Personal Tutor who will oversee your academic and personal progress during the degree. You will have regular meetings with your tutor to help you develop your skills and to plan your personal development.

Fieldwork

Video transcript here (http://www.birmingham.ac.uk/accessibility/transcripts/les/fieldwork-geography-environmental-science.aspx)

Fieldwork is another important component of your study, and you will receive a thorough training in laboratory skills including basic measurement, classification and calibration. The School's excellent microscopy, sedimentology, and analytical chemistry facilities are available to you to support work in individual modules and, if necessary, for your research project.

In the first year, you will attend a short residential field course held at a residential study centre in Shropshire. The field course introduces you to a range of techniques, including ecological surveys, water sampling and urban planning, in an informal environment. At the end of your field course you will have worked and lived with your fellow students, getting to know them well, and will have developed a deeper knowledge of the problems and possibilities of collecting field evidence to solve environmental questions.

In the second year, you will choose a field course, according to your area of interest, from the following:

- The Freshwater Environments field course has a base beside Lake Bala in North Wales, where you will investigate how changes in fish, plankton and macroinvertebrate communities are linked to water quality, changes in land-use, acidification and eutrophication.
- The Physical Processes and Atmosphere field course takes place in Portugal where you will consider the problems of recent environmental changes in Portugal's Alentejo region. These include the impact of natural and accelerated physical processes on the landscape, urban climatology, remote sensing of landscape change, and water resource development.
- The Biogeography and Geomorphology field course is based in Tenerife where you will examine how geological, climatological, geomorphological and ecological processes combine to shape the island's environment.
- The Environmental Management field course travels to Malta and explores environmental management problems on the island. Prospects for future sustainability in relation to waste, water and marine resources, biodiversity conservation, and tourism are considered. The field course is supported by the staff of the University of Malta.
- A Birmingham field course looks at urban wildlife conservation and management at Kings Norton Nature Reserve. On this course you will investigate the biodiversity of local habitats, including the lake, stream and surrounding woodland. You can choose from a range of small projects linked to the objectives of the reserve management plan.

Field courses are subsidised by the School, and students are required to make a contribution towards the residential costs. We recognise that this may be difficult for some students and the Birmingham-based field course enables those students suffering financial hardship to meet the fieldwork requirements at no cost. We also make alternative arrangements for students with disabilities.

In the second and third year of the programme, some modules may involve additional fieldwork components (usually non-residential). Such work is especially important in biogeography, palaeoecology and hydrology, where experience in field methodologies is essential.

Details on how fieldwork will be funded can be found on the **Fieldwork page of the School of Geography, Earth and Environmental Sciences (http://www.birmingham.ac.uk/schools/gees/courses/undergraduate/fieldwork.aspx)** website.

Research Project

Fieldwork experience can also be gained as part of a fieldwork-based research project undertaken in the final year, which may be in your local area or overseas. In recent years students have participated in enjoyable trips to the French Pyrenees, Iceland, Sweden and the Swiss Alps amongst others. Many students have participated in the work of Operation Wallacea in Honduras and Sulawesi, thereby combining academic research with important conservation projects, usually during the summer break.

Past student projects in the final year have included:

- Effects of variable water level on riparian vegetation in the Illinois River
- Perceptions of wind farms in Wales
- The behaviour of red kites reintroduced to the Chilterns
- The carbon footprint of a Premier League football club
- Household waste management – contrasts between the UK and Japan
- The effectiveness of eco-schools in fostering environmental awareness in pupils
- Ecology of a heavily managed and culverted stream in Warwick
- Pollution impacts on fish in Malaysia
- The effect of a bio-ethanol plant on land and sustainability within the UK
- The success of heathland management in improving butterfly populations
- Hydrological and ecological studies of rivers in the French Pyrenees
- Improving the accessibility of Birmingham's canals to people with disabilities
- Awareness and perception of illegal fisheries in Tanzania
- Hydrology of a proglacial environment in the Karsavagge Valley, Abisko, Northern Sweden

Assessment methods

Studying at degree-level is likely to be very different from your previous experience of learning and teaching at school or college. You will be expected to think, discuss and engage critically with your subject and find things out for yourself. We will support you in making this transition to a new style of learning, and the way that you are assessed during your studies will help you develop the essential skills you need to make a success of your time here.

The Environmental Science degree has a modular structure, and in each year learning is spread over two teaching semesters of eleven weeks, with a third summer term of eight weeks for revision and examinations. Assessment methods used are dependent on the modules you choose, but may involve individual or group project work, examinations, oral presentations, and library or web-based research, in addition to fieldwork assessments.

During your first year you will also undergo a formal transition review to see how you are getting on and if there are particular areas where you need support. This is in addition to the personal tutor who is based in your school or department and can help with any academic issues you encounter.

At the beginning of each module, you'll be given information on how and when you'll be assessed for that particular programme of study. You'll receive feedback on each assessment within four weeks, so that you can learn from and build on what you have done for future modules.

Related staff

Dr Lesley Batty (/staff/profiles/gees/batty-lesley.aspx)

Dr William Bloss (/staff/profiles/gees/bloss-william.aspx)

Professor Stuart Harrad (/staff/profiles/gees/harrad-stuart.aspx)

Professor Alexander Milner (/staff/profiles/gees/milner-alexander.aspx)

Dr Chris Bradley (/staff/profiles/gees/bradley-chris.aspx)

Dr Rosie Day (/staff/profiles/gees/day-rosie.aspx)

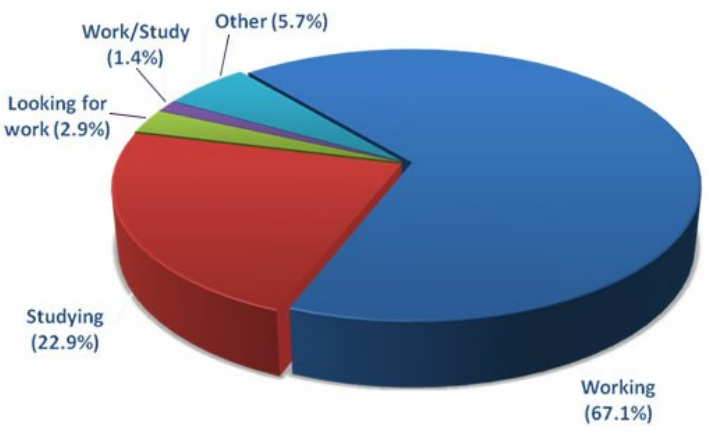
Melanie Bickerton (/staff/profiles/gees/bickerton-melanie.aspx)

Professor Rob MacKenzie (/staff/profiles/gees/mackenzie-rob.aspx)

Professor Eugenia (Éva) Valsami-Jones (/staff/profiles/gees/valsami-jones-eva.aspx)

Employability

In studying Environmental Science at Birmingham you can be confident that you will graduate with a well recognised degree, in which many of the modules have which has been designed with the needs of employers in mind. You will be well placed to develop a career within the growing environmental science field, either in the public or private sector. In both areas, the demand for qualified graduates is growing as society strives to promote sustainable development, meet the requirements of more stringent environmental controls, and address the problems caused by issues such as climate change, air and water pollution, and contaminated land.



Earth and Environmental Sciences - undergraduate destinations 2012/13

Find out more about career opportunities in Earth and Environmental Sciences

Recent graduates have found employment in a wide range of fields. Our most recent student survey showed that 92% of our alumni were working or in further study six months after graduation. Many students were engaged in work or study directly related to their first degree, with the remainder choosing career paths in areas outside of the subject where the transferable skills gained on the programme prove invaluable. Graduates have found employment within the scientific civil service (e.g. Environment Agency), local government, environmental consultancies, conservation organisations and environmental education, as well as in the media, education, finance, sales, IT and law. Other graduates go into teaching at all levels, from primary schools right through to higher education.

Around a quarter of graduates go on to further study at Masters and PhD level, to develop further research identified in different aspects of our programme, including Environmental Management Systems, Water Resources Technology and Air Pollution Management.

Our unique careers guidance service is tailored to your academic subject area, offering a specialised team in the College who can give you expert advice. Our team source exclusive work experience opportunities to help you stand out amongst the competition, with mentoring, global internships and placements available to you. Once you have a career in your sights, one-to-one support with CV's and job applications will help give you the edge. If you make the most of the wide range of services you will be able to develop your career from the moment you arrive at Birmingham.

Hear from our students - find out what other students have gone on to do.