MSc in Environmental Pollution

Develop and implement environmental regulation and remediation by understanding the science
A unique opportunity for top-ranking interdisciplinary study

The Department of Geography and Environmental Science at Reading has an international reputation for research and teaching.

In the 2008 national Research Assessment Exercise, 90% of our research was rated as of international quality. Our research in Agricultural Science was also ranked eighth in the world in the latest Thomson Reuters Essential Science Indicators; the only UK university to be ranked in the global top 20.

Over 97% of our students are in employment or undertaking further study (as at six months after graduation) according to the latest data collected independently for the Higher Education Statistics Agency.

Our graduates work for: Environment Agency; Natural England; National Trust; Komex; WSP Environmental; RPS consultancy; HFL Risk Services; ERM; Forestry Commission; RSPB; CL Associates; Environ UK Ltd and Peter Brett Associates. Graduates also go on to study for PhDs.

Rated as ‘Excellent’ in the latest national review

We were rated ‘Excellent’ by the government’s Quality Assurance Agency for our environmental science teaching at both Masters and Undergraduate levels and the strong relevance of our curriculum to employers and the high employability of our graduates.

HEFCE, the Higher Education Funding Council for England, has recognised our excellent teaching practice through the funding of a Centre for Excellence in Teaching and Learning, and we are consistently ranked as one of the top institutions for our subject areas in the quality assurance and national newspapers’ league tables.

Unique expertise with sector input

Research in Geography and Environmental Science focuses on global issues ranging from the study of natural systems and how these have been perturbed by human actions to sustainable development and development futures under climate change. The staff in the Departments of Geography and Environmental Science have a unique combination of complementary expertise for teaching the science of Environmental Pollution and this is supported by a significant input from industry and regulators to the MSc programme. Current research projects with industry and legislators provide up-to-date information from the sector and MSc dissertations linked with the user community.

Different ways to learn

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<th>Duration</th>
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<tr>
<td>MSc</td>
<td>12 months full-time or 24 months part-time</td>
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<td>Postgraduate Diploma (PgDip)</td>
<td>6 months</td>
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MSc Environmental Pollution
A truly international community

The student body on our MSc is extremely diverse, drawing from a range of different backgrounds and offering an enriched shared learning environment as a consequence. In recent years, overseas students have come to us from as far afield as Belarus, Bhutan, Brazil, Brunei, Chile, China, Colombia, Congo, Cyprus, Denmark, Greece, Iran, Italy, Japan, Nigeria and Spain. Many come straight from completing undergraduate degrees, some have worked in industry and are updating their skills for career development, others wish to retrain and move into the environmental sector.

In 2008 the University of Reading was ranked No 1 in the world for its Learning Experience by its international students.

Conducted by a respected external agency and polling more than 250,000 students, the International Students Barometer (ISB) Survey placed Reading ahead of institutions including Oxford, Cambridge and Yale as well as many other institutions worldwide.

An interdisciplinary, 'hands on' approach with strong links to industry

The programme content recognises that environment pollution requires an applied and interdisciplinary approach. Therefore as a student you gain an underpinning knowledge of the scientific principles from academic experts while industry and regulatory practitioners give lectures on applied aspects of the programme to ensure the relevance and timeliness of your learning. Throughout the course there are practical classes as well as a week long study tour to reinforce lecture material and support the ‘hands on’ approach of this MSc programme. There are site visits so you can see first-hand the working of the environmental pollution sector.

Programme structure and content

The programme has eight compulsory modules and five optional modules from which you select three. These are taught over the first two terms. Students undertake their research dissertation between May and September. As a graduate, you will be highly employable in the growing international market for environmental managers and consultants.

Core modules

- Contaminants in the environment
- Laboratory analysis of pollutants
- Quantitative analysis
- Remediation techniques
- Practical site investigation
- Research Skills and Career Learning
- Soil microbiology
- Study tour

Optional modules

- Transport processes in soil
- Waste and Environmental Management
- Water and soil quality
- Short dissertation
- EU Environmental Law

A collaborative dissertation

The Research Dissertation that all of our students carry out is often done in collaboration with an industrial partner.

Some of the companies involved in your learning – through provision of lectures, research dissertations or site visits – currently include: AlControl UK Ltd, WRc Ltd, Shanks First, TerraEcosystems, Enviros, Thames Water, Syngenta, Imerys, Viridor Waste Management, Grundon Waste Management Ltd, Forest Research, New Earth Solutions Ltd.

The research dissertation

After completion of the taught modules, you have the opportunity to put into practice what you have learnt in a research dissertation lasting approximately four months. This is your chance to specialise, work with industry or to carry out a preliminary study to prepare for a PhD. Examples of research dissertations include:

- Testing environmental risk assessment techniques (with the Centre for Ecology and Hydrology)
- Treating waste with waste – use of composts for soil remediation
- The value of urban green space in Reading (with Reading Borough Council)
- Land use change in the Chilterns AONB: Identification of recent drivers and impacts (with Chilterns Conservation Board)
- Aerobic biodegradation and disintegration of plastic materials (with TerraEcosystems)
- Assessing the risks of engineered nanoparticles in the environment (with Golder Associates)
- Application of contaminated land exposure assessment models to contaminated land in China

Core modules

- Soils microbiology
- Study tour

Optional modules

- Waste and Environmental Management
- Water and soil quality
- Short dissertation
- EU Environmental Law
How we teach and you learn

Teaching is through lectures, seminars, laboratory and computer practicals and site visits. Continued contact with industrial partners and former MSc students ensures that the programme remains relevant to current and up-and-coming issues and responds to market demands. You will also be invited to attend and participate in a lively schedule of research seminars and postgraduate discussion groups in the Department.

The MSc aims to provide you with the skills required by employers and for careers in research.

Developing and enhancing your skills portfolio

After completing the programme you will be able to:

• Devise strategies and procedures for site investigation and risk assessment
• Understand and predict the fate of contaminants in the environment
• Identify sources and disposal routes for industrial and domestic waste
• Dissect, analyse and discuss key areas of EU Environmental law and regulation
• Determine the most appropriate options for the clean up of polluted sites
• Understand the processes leading to the degradation of land and water quality
• Apply appropriate analytical techniques for the quantification of environmental pollutants
• Prepare industrial reports and write scientific papers
• Analyse and graphically represent environmental data
• Give clear presentations

Entry requirements

For entry on the degree you should have at least a second class (2.2) undergraduate honours degree (or equivalent from a University outside the UK) in any related field, e.g. Environmental Science, Earth/Geoscience, Chemistry, Biology, Geography and Agriculture.

Alternative qualifications including experience in industry are positively considered. Overseas students also require an IELTS score of 6.5 or a TOEFL equivalent.

Masters, PgDip, or PgCert?

Full-time or part-time?

The MSc can be taken either full-time over 12 months or part-time over 24 months.

Postgraduate Certificates (3 months) and Postgraduate Diplomas (6 months) comprising either one or both terms of the lecture component of the MSc are also available.

All taught modules are taken in the Autumn and Spring terms from October to March. Dissertation research/industrial placements take place between April and September.