



University of
ULSTER

faculty of
LIFE and HEALTH SCIENCES

school of
environmental sciences

PGDip/MSc

Environmental Toxicology & Pollution Monitoring

by Distance Learning



The Programme:

This programme provides advanced training in environmental toxicology, monitoring techniques and evaluates global environmental legislation. It fulfils the demand for trained personnel in the environmental regulatory agencies, in companies subject to such regulation and those involved in providing support services such as monitoring and consultancy. The course is offered in part-time online mode and suits people already working in the environmental field or those wishing to pursue a career in this area.

Specific Objectives:

The specific objectives of the course are to develop an understanding of:

- The general mechanisms of toxicity in humans.
- The basis of setting environmental quality standards.
- The behaviour of contaminants in water, air and soil.
- The main toxicological problems of contaminants in the environment
- The legislative controls on contaminants.



This course is accredited by the Institution of Environmental Sciences
<http://www.ies-uk.org.uk/accredit/students.html>

Study for a Postgraduate Diploma (PgDip) or a Master of Science (MSc) Degree:

The PgDip is made up of four taught modules (30 credits per module). There is one module in each semester (15 weeks) of a two semester University year, with one semester starting in late September and another in late January. The four modules accumulate to the award of PgDip in Environmental Toxicology & Pollution Monitoring (120 credits). At this stage you can take the PgDip Award, continue studying for the MSc (a further research module over 2 semesters, 60 credits), or take a break from study and come back up to five years later to complete the research module and receive the full MSc.

Start Dates:

There are two intakes each year for a late September and late January start. Deadlines for receipt of applications are normally one month in advance of course commencement. Full details and updated application deadlines are available from the course website.

Entry Requirements & Progression

Entry to the PGDip:

Applicants should normally possess one or more of the following:

- an honours degree in an appropriate subject or combination of subjects (e.g. Environmental Science, Geography, Chemistry, Biology, Engineering).
- a professional qualification of equivalent standard to degree plus at least five years relevant work experience.
- a qualification deemed to be an equivalent to the above.

Entry to the MSc:

Students initially register for the Postgraduate Diploma (PgDip). Students who complete the PgDip with an overall mark of 50% or higher can proceed to the MSc programme. Students successfully completing the research project and with an overall pass mark of greater than or equal to 70% will graduate with an MSc in Environmental Toxicology & Pollution Monitoring with distinction. Those who obtain an overall pass of greater than or equal to 50%, but less than 70%, will graduate with an MSc in Environmental Toxicology & Pollution Monitoring.

Fees

Course fees are calculated on a credit point basis. There is a price per credit point and this is multiplied by the number of credits for a particular programme. You can find out more information on the applicable fees at: <http://www.ulster.ac.uk/finance/fees> or contact the course director.

Typical Course Structure (The order in which modules are taken varies with the start date - see online course description for details)

Postgraduate Diploma Modules – Years 1 and 2

Environmental Data Analysis (EGM802)

This module will provide new and synthesise existing knowledge and skills necessary to understand and analyse environmental data. Statistics, environmental modelling, geographical information systems and presentation skills will be taught and demonstrated. The students will put this knowledge into action in the form of worked examples and assessments. Knowledge and evaluation techniques are provided in lectures, skills developed during worked examples and demonstrated by assessments.

Environmental Toxicology (EGM820)

This module will provide knowledge and skills necessary to understand the impact of chemicals in the environment. Specific areas covered include: the major toxicants, both organic & inorganic; sources, pathways and fate of major toxicants; specific effects on organisms (including humans); physiological & biochemical principles of toxicity testing; LD50 & NOEC; examples of toxicity tests, eg Microtox; role of biomarkers, examples & development of metallothionein; examples of active European and US legislation enforcing toxicology testing & levels in the environment.

Pollution Monitoring (EGM821)

The aim of this module is to provide the knowledge and skills necessary to monitor pollution of the environment. The key topics covered are sample collection, chemical and biological methods of analysis, analytical quality control, toxicity tests, data analysis, assessing compliance and critical loads.

Water Management (EGM822)

This module covers the strategic approach to controlling water and physical freshwater quality, focussing on the catchment scale. Covered will be areas such as the principles behind catchment management, European, American and Canadian water quality legislation, protection of water resources using biological monitoring and the principles of water and wastewater treatment. Risk assessment and international boundary monitoring issues are also included.

Master of Science

Year 3 – Environmental Toxicology and Pollution Monitoring Project (EGM826)

To obtain an MSc qualification, students are required to complete advanced study under supervision within a specialised area. The project component of the MSc in Environmental Toxicology & Pollution Monitoring provides this opportunity through training in advanced research techniques within an original and hypothesis driven research project. The student, by making an original contribution to their field, develops the skills of postgraduate, independent research, commensurate with an MSc. A demonstration of the professional expertise of the successful student will be in the ability to communicate their findings and contribute to a peer-reviewed journal.

Computer Requirements

To take a course via the Internet, you will need access to a computer with a modem/broadband internet link. In addition, access to the Microsoft Office Suite and a CD-ROM drive is required, as modules may also be supplied as CD-ROM hardcopies. The course uses the WebCT learning environment – this is one of the largest online education software providers in the world. You will automatically get access to this when you become a registered student with the University of Ulster.

The Online Environment

You will find that distance courses are much more flexible than traditional on-campus university courses as you can study using your own computer and the Internet, wherever your location. Communication in online courses occurs via three methods: e-mail, discussion boards and online chat. The extent to which each of these methods is used is determined by the instructor and your e-tutor. A lot of people mistakenly assume that they will feel isolated in an online course. To their surprise, most find that online courses actually provide a high degree of personal contact as the online format facilitates communication in ways that would be impossible in other situations.

As a distance learning student with the University of Ulster, you can:

- Submit work quickly and easily using the WebCT internet technology.
- Email your lecturer or e-tutor with queries or problems as they arise and receive feedback in a shorter time than you would by post.
- Liaise with other students by email or through discussion forums and use shared ideas and information.
- Use the Universities extensive online resources of licensed electronic access to Journals, Books and Websites.

If you have any queries relating to the course, please contact:

Dr. Richard Douglas (Course Director)

School of Environmental Sciences

University of Ulster,

Coleraine,

N. Ireland

Email: rw.douglas@ulster.ac.uk

Tel: +44 (0)2870 323116

Fax: +44 (0)2870 324911

Information on fees, course structure and application is available from:

<http://www.ulster.ac.uk/es>