

## PROGRAMME SPECIFICATION

This document describes the **Master of Science and Postgraduate Diploma in Environmental Diagnosis and Management**. This specification is valid for new entrants from **September 2016**.

The aims of the programme are:

- To provide a wide range of practical training, transferable skills and scientific knowledge and understanding to enable graduates to have successful careers within environmental consultancies and engineers, local and regulatory authorities, industry, research institutes and academia.
- To emphasise practical, scientific and quality aspects of the diagnosis (i.e. analysis and assessment) and management (i.e. remediation and restoration) of environmental, ecological, health and climate issues concerned with contaminated land, water quality, air pollution and waste management.

The Masters programme is delivered over one year of full-time study (52 weeks) or up to five years (260 weeks) of part-time study. It is designed for recent science and engineering graduates, and for those in their early- and mid-careers with working experience, who wish to begin or advance careers in the environmental sector, or to pursue scientific research. Teaching focuses on producing professional environmental research scientists and managers via a combination of interactive lectures and small group work, a wide range of case studies and study visits, much practical hands-on laboratory- and field-work, and teambuilding.

Graduates possess a wide range of practical and transferable skills and scientific knowledge necessary to become leading experts in their chosen careers within environmental consultancies and engineers, local and regulatory authorities, industry, research institutes and academia. Indeed, with recent implementations of the EU and UK Contaminated Land Regulations, Landfill Directive, Water Framework Directive, and Air Quality Strategy, employment prospects within the environmental sector remain very good.

The Masters programme has “outstanding and expanding links” with the environmental sector, and an “outstanding and enviable” record of employment and research training within the environmental sector.

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This document provides a summary of the main features of the programme, and of the outcomes which a student might reasonably be expected to achieve if full advantage is taken of the learning opportunities provided. Further information is contained in the College prospectus, the College Regulations and in various handbooks issued to students upon arrival. Whilst Royal Holloway keeps all its information for prospective applicants and students under review, programmes and the availability of individual courses are necessarily subject to change at any time, and prospective applicants are therefore advised to seek confirmation of any factors which might affect their decision to follow a specific programme. In turn, Royal Holloway will inform applicants and students as soon as is practicable of any substantial changes which might affect their studies.

## Learning outcomes

Teaching and learning in the programme are closely informed by the active research of staff. In general terms, the programme provides opportunities for students to develop and demonstrate the following learning outcomes:

### *Knowledge and understanding*

Students should have acquired hands-on practical experience, advanced scientific knowledge and critical understanding to enable them to:

- apply quality assured sampling strategies, preparation procedures and analytical systems to quantify health risks posed by inorganic and organic pollutant linkages in soils, waters and air;
- apply statistical analysis, geographical information systems, and environmental impact assessment to the interpretation of environmental data;
- appreciate the importance and impacts of hydro-geological, and bio- and physico-chemical processes on the treatment of water and wastewater, and on the quality of groundwater and aquatic ecosystems;
- appreciate the emissions, dispersion, conversion, and monitoring of natural and man-made gaseous and particulate air pollutants, their impacts on climate change, human health and vegetation, and management on local, regional and global scales;
- appreciate the prevention, re-use, recycling, recovery, disposal and utilisation of municipal, nuclear and industrial waste within the constraints of national and international legislation;
- manage an independent environmental science research project with professional collaboration, and of significant value to their career development;

### *Skills and other attributes*

After taking the programme, students should have acquired hands-on practical experience, advanced scientific knowledge and critical understanding to enable them to:

- Conduct themselves as professional environmental research scientists, consultants, and managers\*, convey in a professional manner, scientific, technical and managerial information\*, and manage projects and resources efficiently\*

\* transferable skills

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## Teaching, learning and assessment

The programme focuses on producing professional environmental research scientists and managers. Teaching and learning is highly interactive, and occurs via a combination of lectures and small group work, seminars and tutorials, a wide range of case studies and study visits, much hands-on practical laboratory and fieldwork, and teambuilding. In addition, there is a variety of assessed work including verbal and written reports, examinations, posters, PC-based exercises, and an independent research project, all with significant confidential verbal and/or written feedback.

The emphasis throughout the programme is on practical and scientific environmental diagnosis and management of environmental issues of contaminated land, water quality, air pollution, and waste management. There is also much interaction with leading experts from environmental consultants, industry, local and regulatory authorities, industry and universities, who teach, present seminars, host several study visits and co-supervise research projects.

Full details of the assessments for individual courses can be obtained from the [Department](#).

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## Details of the programme structure(s)

The brief outline of the programme is shown below; however students can obtain further details from the Programme Handbook. **Credits are indicated in brackets, and indicate proportional weighting towards the**

## **Masters and Postgraduate Diploma classification grade.**

Students must take the following mandatory courses:

- (i) EA5110: Environmental Diagnosis (40 credits)
- (ii) EA5220: Environmental Management (20 credits)
- (iii) EA5430: Case Studies (60 credits) non-condonable
- (iv) EA5500: Independent Research Project (60 credits) non-condonable

The programme structure for the Postgraduate Diploma is as above, with the exception that students will not undertake the Independent Research Project.

### Part-time programme structure

The part-time Masters programme normally lasts 104 weeks, beginning in September of year one\*\*. Part-time students normally take combinations of parts of courses EA5110, EA5220, EA5430 in their first and second years, and all course EA5500 in their second year.

\*\* part time students are permitted under College regulations to complete their programme of study over a period of up to 5 years. Students who are unable to complete the programme within the standard 2 year timeframe should liaise with the programme director to agree a time frame for completion.

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### **Progression and award requirements**

Progression throughout the year/s is monitored through performance in oral presentations, contributions to seminar discussion and coursework.

Please note that if you hold a Tier 4 (General) Student Visa and you choose to leave (or are required to leave because of non-progression) or complete early (before the course end date stated on your CAS), then this will be reported to UKVI.

To pass the **Master's** programme a student must achieve an overall weighted average of at least 50.00%, with no mark in any course which counts towards the final assessment falling below 50%. Failure marks between 40-49% can be condoned in courses which constitute up to a maximum of 40 credits, provided that the overall weighted average is at least 50.00%, but a failure mark (i.e. below 50%) in the dissertation cannot be condoned.

The Master's degree with Merit may be awarded if a student achieves an overall weighted average of 60.00% or above, with no mark in any course which counts towards the final assessment falling below 50%. A Distinction will not normally be awarded if a student re-sits or re-takes any course of the programme.

The Master's degree with Distinction may be awarded if a student achieves an overall weighted average of 70.00% or above, with no mark in any course which counts towards the final assessment falling below 50%. A Distinction will not normally be awarded if a student re-sits or re-takes any course of the programme.

The **Postgraduate Diploma** may be awarded if a student achieves an overall weighted average of at least 50.00%, with no mark in any taught course which counts towards the final assessment falling below 50% *and* has either chosen not to proceed to the dissertation, or has failed the dissertation on either the first or second attempt. Failure marks in the region 40-49% are not usually condoned for the award of a Postgraduate Diploma, but if they are, such condoned fails would be in courses which do not constitute more than 40 credits.

The Postgraduate Diploma with Merit may be awarded if a student achieves an overall weighted average of 60.00% or above, with no mark in any course which counts towards the final assessment falling below 50%.

The Postgraduate Diploma with Distinction may be awarded if a student achieves an overall weighted average of 70.00% or above, with no mark in any course which counts towards the final assessment falling below 50%. A Distinction will not normally be awarded if a student re-sits or re-takes any course.

The Postgraduate Certificate may be awarded if a student achieves an overall weighted average of at least 50.00%, with no mark in any taught course which counts towards the final assessment falling below 50%. Failure marks in the region 40-49% are not usually condoned for the award of a Postgraduate Certificate.

The Postgraduate Certificate with Merit may be awarded if a student achieves an overall weighted average of 60.00% or above, with no mark in any course which counts towards the final assessment falling below 50%.

The Postgraduate Certificate with Distinction may be awarded if a student achieves an overall weighted average of 70.00% or above, with no mark in any course which counts towards the final assessment falling below 50%. A Distinction will not normally be awarded if a student re-sits or re-takes any course

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### **Student support and guidance**

- All students are assigned a Personal Advisor who is concerned for their academic progress and social well-being. Personal Advisors (and the Programme Director) may be consulted to discuss in confidence, academic, vocational or personal matters, and may be asked to provide a reference in support of applications for employment or further postgraduate research. Students may be advised to discuss certain matters with more appropriate members of staff. Module co-ordinators, teaching staff and research project supervisors may also be consulted.
- Free study periods are scheduled daily throughout the Autumn and Spring terms to encourage individual and group study, and teamwork.
- Tutorial sessions are scheduled in response to student requests for extra tuition in specific topics, and to student needs as perceived by the teaching staff.
- Upon request, written and/or verbal feedback is provided for each piece of assessed coursework, including examinations.
- Seminar speakers from environmental consultancies and engineers, local and regulatory authorities, industry, research institutes and academia present recent work and to discuss career opportunities and potential research projects. Graduates of the programme are invited to speak on the early development of their professional careers. Seminars are usually followed by professional networking and interaction with refreshments. Information on career opportunities and job vacancies within the environmental sciences is posted as it is received.
- A one week induction programme.
- Detailed PG Masters Programme Handbook
- Extensive supporting materials and learning resources in the College and University libraries, as well as the Computer Centre.
- The programme is delivered in dedicated departmental teaching laboratories, and in departmental and College computing facilities and research laboratories.
- College Careers Service and Departmental Careers Advisor
- Access to all College and University support services, including Student Counselling Service, Health Centre, Students' Union and students with additional learning needs also have access to Disability and Dyslexia Services (ESO).
- Programme Representatives are elected by the class to serve on the Departmental MSc Student-Staff Committee.
- Programme Representatives are elected by the class to liaise with the Programme Director and to organise

social events.

- All students are welcome to participate in social events organised by the Student-run Lyell Geoscience Society, Postgraduate Students and the Department.

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### **Admission requirements**

For details of admissions requirements please refer to the [Course Finder](#) and the Departmental [website](#).

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### **Further learning and career opportunities**

Graduates of the programme are trained professional environmental scientists and managers, with a wide range of practical and transferable skills and scientific knowledge and understanding. The programme has an outstanding and enviable record of employment with environmental consultancies and engineers, local and regulatory authorities, industry, research institutes and academia, with which the programme has outstanding links via contributions to teaching and research. Many graduates also choose to pursue PhD research at Royal Holloway and other leading national and international universities.

In addition to the services offered by the College Careers Service, the Department has strong alumni links, while further links with employers are fostered through personal professional contacts. For more details on further learning and career opportunities please refer to the [Careers Service](#).

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### **Indicators of quality and standards**

Royal Holloway's position as one of the UK's leading research-intensive institutions was confirmed by the results of the most recent Research Excellence Framework (REF 2014) conducted by the Higher Education Funding Council (HEFCE). The scoring system for the REF 2014 measures research quality in four categories, with the top score of 4\* indicating quality that is world-leading and of the highest standards in terms of originality, significance and rigour and 3\* indicating research that is internationally excellent. 81% of the College's research profile was deemed to be within the 4\* or 3\* categories, an increase of over 20% since 2008. This results for the quality of our research outputs placed Royal Holloway 15<sup>th</sup> in the UK based on an overall Grade Point Average (GPA) score and 20<sup>th</sup> in the UK for 4\* and 3\* research. The Department of Earth Sciences is ranked 14 in the UK for research of 4\* standard and 2 for 3\* and 4\* research and is ranked within the top 5 departments for their subject in the UK.

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### **List of programmes with details of awards, teaching arrangements and accreditation**

The programme is taught by staff at Royal Holloway, University of London with invaluable interaction with leading experts from environmental consultants and engineers, industry, local and regulatory authorities, and universities and research institutes, who teach, present seminars, host several study visits, and co-supervise and manage research projects. The Masters leads to an award of the University of London. The Postgraduate Diploma leads to an award of Royal Holloway and Bedford New College. The Banner programme code is given in parentheses.

#### **Master of Science in Environmental Diagnosis and Management**

MSc in Environmental Diagnosis and Management (1114)

#### **Postgraduate Diploma in Environmental Diagnosis and Management**

PG Diploma in Environmental Diagnosis and Management (2888)

## **Postgraduate Certificate in Environmental Diagnosis Management**

PG Cert in Environmental Diagnosis and Management (XXXX)

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