ROYAL HOLLOWAY University of London

COURSE SPECIFICATION

This document describes the **Master of Science, Postgraduate Diploma and Postgraduate Certificate in Environmental Diagnosis and Management**. This specification is valid for new entrants from **September 2020**.

The aims of the course 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 course is delivered over one year of full-time study (52 weeks) or up to 5 years (260 weeks) of part-time study (usually 2 years). 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 and training focuses on producing professional environmental 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 ongoing implementations of 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 course has “outstanding and expanding links” with the environmental sector, and an “outstanding and enviable” record of employment and research training within the environmental sector.

Further information

This document provides a summary of the main features of the course, 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, courses and the availability of

individual modules 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 course. 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 course are closely informed by the active research of staff. In general terms, the course 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, reduction, 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 course, 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 and effectively*

* transferable skills

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Teaching, learning and assessment

The course focuses on producing professional environmental 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, posters, PC-based exercises, and an independent research project, all with significant confidential verbal and/or written feedback.

The emphasis throughout the course 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 professional practitioners 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 modules can be obtained from the Course Handbook.

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Details of the course structure(s)

The brief outline of the course is shown below; however students can obtain further details from the Course Handbook. **Credits are indicated in brackets, and indicate proportional weighting towards the Masters and Postgraduate Diploma classification grade.**

Students must take the following mandatory modules:

EA5110: Environmental Diagnosis (30 credits)

EA5220: Environmental Management (30 credits)

EA5430: Case Studies (60 credits) non-condonable

EA5500: Independent Research Project (60 credits) non-condonable

The course structure for the Postgraduate Diploma is as above, with the exception that students will not undertake the Independent Research Project. The course structure for the Postgraduate Certificate is as above, with the exception that students will not undertake the Case Studies and the Independent Research Project.

Part-time course structure

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

** Part-time students are permitted under College regulations to complete their course of study over a period of up to 5 years. Students who are unable to complete the course within the standard 2 year time-frame should liaise with the Course Lead 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 assessed coursework, case studies, and independent research project.

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 non-engagement with your studies) or complete early (before the end date stated on your CAS), then this will be reported to UKVI.

To pass the **Master's** course a student must achieve an overall weighted average of at least 50.00%. 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 research project 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.

The Master's degree with Distinction may be awarded if a student achieves an overall weighted average of 70.00% or above.

The **Postgraduate Diploma** may be awarded if a student achieves an overall weighted average of at least 50.00%. 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 Certificate** may be awarded if a student achieves an overall weighted average of at least 50.00%. Failure marks in the region 40-49% will not be condoned for the award of a Postgraduate Certificate.

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Student support and guidance

Students are assigned a Personal Advisor who is concerned for their academic progress and social well-being. Personal Advisors (and the Course Lead) 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 postgraduate research. Students may be advised to discuss certain matters with more appropriate members of staff. Teaching staff and research project supervisors may also be consulted for advice.

The course is delivered face to face and online in dedicated departmental teaching and research laboratories, and in departmental and College computing facilities. Free study periods are scheduled 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. Written and/or verbal feedback is provided for each piece of assessed coursework.

Seminar speakers are invited from environmental consultancies and engineers, local and regulatory authorities, industry, research institutes and academia to present recent work and discuss career opportunities and potential research projects. Graduates of the course are invited to speak on the early development of their professional careers. Seminars are usually followed by professional networking and interaction. Information on career opportunities and job vacancies within the environmental sciences is posted as it is received.

Students are provided with a detailed PGT Masters Course Handbook and extensive supporting materials and learning resources in College and University libraries, as well as the Computer Centre. Students also have access to all College and University support services, including Student Counselling, Educational Support, Health Centre, Careers and Employability, Centre for Development of Academic Skills, and the Students' Union.

Course Representatives are elected to serve on the Departmental MSc Student-Staff Committee, and to to liaise with the Course Lead 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 course are trained professional environmental scientists and managers, with a wide range of practical and transferable skills, and scientific knowledge and understanding. The course 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 course has outstanding links via significant contributions to teaching and research. Many graduates also choose to pursue PhD research at Royal Holloway and other leading national and international universities. For more details on further learning and career opportunities please refer to the Careers & Employability 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. These results for the quality of our research outputs placed Royal Holloway 15th in the UK based on an overall Grade Point Average (GPA) score and 20th 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 courses with details of awards, teaching arrangements and accreditation

The course is taught by staff at Royal Holloway, University of London with invaluable interaction with professional practitioners 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 help manage research projects. The Masters leads to an award of the University of London. The Postgraduate Diploma and Postgraduate Certificate both lead to an award of Royal Holloway and Bedford New College. The Banner course codes are 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 and Management

PG Cert in Environmental Diagnosis and Management

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