ROYAL HOLLOWAY
University of London

PROGRAMME SPECIFICATION

This document describes the **Master of Science in Quaternary Science**. This specification is valid for new entrants from **September 2007**.

The aims of this programme are to:

- provide a *conversion programme* for students of, for example, Biology, Physical Geography, Geology, Ecology, Archaeology, Oceanography, Environmental Science who wish to develop or augment a background in global environmental history and processes;
- provide a *training programme* for students wishing to continue postgraduate study to PhD standards, and who require fundamental training in appropriate palaeoenvironmental, stratigraphical and/or quantitative principles and methods;
- provide a *vocational programme* for teachers and professional scientists who desire or require a fuller understanding of the time-dependent elements of environmental change as essential context for their career.

The programme is delivered over one year of full-time study (52 weeks) or two years of part-time study (104 weeks). If students chose to take the programme part-time over two years, they are encouraged to enrol in at least the core courses during their first year. Flexibility is integral to the programme through its modular structure, offering a range of short courses, some of which are also offered as stand-alone training units to students and staff from other institutions who have an appropriate background and who seek training or refresher/up-dating courses in specific techniques or approaches.

The programme offers comprehensive and flexible postgraduate training in the rapidly developing field of Quaternary Science, with the academic emphasis being on the time-dependent processes affecting environmental change. This programme is offered jointly by Royal Holloway, University of London (RHUL) and University College London (UCL), with Royal Holloway being the lead institution for administration purposes.

Further information

This document provides a summary of the main features of the programme(s), 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

Knowledge and understanding

- Acquire and demonstrate specialist disciplinary knowledge and understanding of key issues pertaining to Quaternary Science, in particular the core linking themes of:
  a) high-resolution palaeoenvironmental records;
  b) high-precision dating;
  c) multi-proxy approaches to the investigation of past environmental changes.

Skills and other attributes

- ability to assess the causes, scale and rapidity of past climate and environmental fluctuations, encompassing field, laboratory, statistical and computing methods used in the acquisition, interpretation and modelling of proxy climatic and environmental data;
- ability in project formulation and design, sampling strategies and hypothesis testing;
- effective problem-solving and decision-making;*
- critical analysis and synthesis of information;*
- good communication skills;*
- advanced interpersonal skills;*
- quantitative analysis;*
- skills in Information Technology;*
- good time management;*
- effective team work.*

***** transferable skills

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Teaching, learning and assessment

Teaching and learning is mainly by seminars, workshops, problem solving, group working, practical classes, completion of coursework and private study for the taught modules and departmental/college research training; and for the dissertation by independent research and private study, supported by research supervision. Students receive regular, scheduled, feedback on their performance in taught courses, their dissertation plan and draft proposal (spring term), their dissertation, web site, and oral presentation (summer term). Completion of tasks is monitored centrally to ensure students experiencing difficulty can be identified and provided with appropriate support.

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.

(i) FIVE Core Courses
(ii) Field Training Programme
(iii) FIVE Option Courses
(iv) Dissertation

Students must take the following five Core Courses for element (i):
GG5201 Quaternary Stratigraphy and Sedimentology (**RHUL**)
GG5291 Quaternary Palaeoclimatology (**UCL**)
GG5293 Principles of Quaternary Research (**RHUL**)
GG5295 Quantitative Environmental Palaeoecology (**UCL**)
GG5217 High Precision Age Modelling (**RHUL**)

and undertake the Field Training Programme for element (ii).

The field training programme consists of a minimum of 10 full working days in the field. The location and duration of the course varies from year-to-year, but all students are required to participate in the main residential programme of GG5230. In addition, field training exercises form compulsory elements of some of the core and option courses. The objectives of these exercises vary and include (i) collection and analysis of data in the field, (ii) collection of materials for laboratory analysis, (iii) application of advanced analytical skills, applying the principles of the methods taught in the relevant option course, and (iv) in-depth study of Quaternary palaeoenvironmental and/or stratigraphical evidence.

plus choose five Options Courses from a list of courses offered by the Department and UCL for element (iii).

plus for element (iv) take the Dissertation course:

GG5299 Dissertation in Quaternary Science
Students prepare a dissertation on an original and independent research project. Students will be encouraged to choose topics that integrate well with the established research strengths and interests of the staff contributing to the MSc degree programme.

Please note that the list of available options courses offered is subject to change and not all courses run each year. A full list of current courses can be obtained from the Department.

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Progression and award requirements
To pass the programme a student must achieve an overall weighted average of at least 50.00%, with no mark in any of the elements which counts towards the final assessment falling below 50%. Failure marks between 40-49% can be condoned in courses which do not constitute more than 25% of the final assessment, 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 Masters degree with Merit may be awarded if a student achieves an overall weighted average of 65.00% or above, with no mark in any of the elements which counts towards the final assessment falling below 50%.

The Masters degree with Distinction may be awarded if a student achieves an overall weighted average of 70.00% or above, with no mark in any of the elements which counts towards the final assessment falling below 60%. A Distinction will not normally be awarded if a student re-sits or re-takes any element of the programme. In exceptional circumstances a viva may be held for a student at the request of the Examiners.

Students will also normally be expected to achieve pass grades in the formative assessments of the GG5201, GG5291, GG5293 and GG5217 core courses. The marks for these core courses do not count towards the final programme assessment, but will be taken into consideration at the Final Board of Examiners meeting, especially for the adjudication of border-line cases.

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Student support and guidance
- All students are allocated two Personal Tutors, one from RHUL and one from UCL, with whom they are expected to meet at least once a term to discuss pastoral issues. Additional ad hoc meetings may be arranged where appropriate with either the tutors, Programme Director (based at RHUL) or UCL Programme Coordinator.
- Students are allocated a Dissertation Supervisor, with whom they meet regularly to discuss all matters relating to their dissertation.
- Where necessary, students may also have a Personal Advisor, who deputises for the supervisor in his/her absence, and who can provide additional support and guidance. Students are free to meet their advisors as and when necessary.
- All staff available and accessible through an open-door policy or by operating an office hours system.
- Students complete anonymous questionnaires on every course and the degree programme as a whole. These returns are analysed by the Programme Director and the main results discussed at Periodic Review Meetings of the teaching team.
- Two student representatives are elected to the Periodic Review Committee; their attendance at meetings also gives the opportunity to voice specific or general student views on the programme content and delivery.
- Additional opportunities for student input are provided by Masters' student representation on the RHUL Geography Department Postgraduate Committee.
- Membership of a research group.
- Programme handbook.
- Supporting materials and learning resources in the Department, College libraries and Computer Centre.
- Dedicated Departmental teaching rooms and computer suite.
- A Geography Special Educational Needs Officer.

- College Careers Service and Geography Careers Service Liaison Officer.
- Access to all College and University support services, including Student Counselling Service, Health Centre and the Education Support Unit for students with special needs.

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Admission requirements

Admission to the programme normally requires an Upper Second Class or a First Class Honours degree in a relevant subject such as Geology, Geography, Environmental Science/Studies, Botany, Ecology or Archaeology. However, the Department also has considerable flexibility in its admissions and offers policy and strongly encourages applications from non-standard applicants (such as those with degrees in other subjects like Biology, Physics, Chemistry, Mathematics, or those with extensive field and/or laboratory experience in a relevant vocation). These non-standard applicants will be considered but must be able to demonstrate some familiarity with the methods and aims of Quaternary Science, or aspects of environmental change and/or demonstrate proficiency in theoretical aspects of the subject. Some applicants may be required to undertake assessed preparatory reading programmes and/or other assignments as a condition of entry.

Students whose first language is not English may also be asked for a qualification in English Language at an appropriate level. For further details please refer to the Prospective Students web page. It may also be helpful to contact the Admissions Office for specific guidance on the entrance requirements for particular programmes.

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Further learning and career opportunities

The majority of graduates go on to doctoral research in the UK and abroad, ultimately leading to a PhD. Other graduates have successfully progressed into a wide range of professions and some are now employed by the British Geological Survey, the British Antarctic Survey, Natural Environment Research Council (NERC), environment agencies, higher education institutions, and private sector natural resource companies, as researchers, technicians, and teachers. Information on these opportunities is provided by talks on careers and higher degree opportunities, organised by the Department and College Careers Service. 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 Assessment Exercise (RAE 2008) conducted by the Higher Education Funding Council (HEFCE). The new scoring system for the RAE 2008 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. 60% of the College's research profile is rated as world-leading or internationally excellent outperforming the national average of 50%. The College is ranked 16th in the UK for research of 4* standard and 18th for 3* and 4* research. The Geography Department was ranked joint 9th in the top 10 universities in the country in terms of proportion of 3* and 4* research, with 65% of the Department's research profile being rated as 3* or 4*.

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List of programmes

The programme is taught jointly by staff at Royal Holloway, University of London and University College London, while additional support is provided through the involvement of staff from the Natural History Museum (London) and Queen Mary, University of London. The programme leads to an award of the University of London. Programmes in Geography are not subject to accreditation by a professional body. The Banner programme code is given in parentheses.

Master of Science Programme in Quaternary Science

MSc in Quaternary Science (1372)

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