

PROGRAMME SPECIFICATION

This document describes the **Master of Science by Research (Earth Sciences)**. This specification is valid for new entrants from **September 2011**.

The aims of the programme are:

- to enable students to carry out a well-constrained independent research project, the scientific content of which is suitable for publication
- to equip students with the skills needed to carry out the research project, and projects within the same broad area of geology, including both subject-specific and transferable skills
- to provide training in the presentation of research at conferences and as publications, and to encourage students to present their results at appropriate conferences
- to give students the training required for a research career in the geosciences

The programme is delivered over one year of full-time study (52 weeks) or two years of part-time study (104 weeks) and is offered to students who wish to pursue research in a selected field of the Geological Sciences and be awarded a Masters degree. Students will receive training in research skills, including data collection, data handling and analytical techniques as well as transferable and presentation skills. Students will take a taught course in a subject area closely related to the chosen field of research, selected from a menu of Masters level courses offered by the Department as components of other programmes (MSc and MSci). Upon completion of the programme students will have gained experience of research and presentation of material in the geological sciences which will equip them for a career in geoscience research, including doctoral degrees, and related areas of employment. It will also equip students with the skills needed to publish work in international scientific journals.

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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

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

- an advanced knowledge and understanding of a variety of analytical, technical, numerical, modelling and interpretive techniques applicable to the specific field of earth sciences;
- the articulation of knowledge and the understanding of published work, concepts and theories in the chosen field of earth sciences at an advanced level;
- the acquisition of knowledge from published work in the chosen area of earth sciences to a level appropriate for a MSc degree.

Skills and other attributes

- the ability to generate original data using techniques appropriate to the field of study;
- the ability to evaluate published research at the forefront of the field;*
- the ability to analyse and critically interpret data;*
- to develop further skills of information handling and retrieval, including text and data;*
- the ability to describe the results of experimental work precisely and concisely;*
- the ability to present logical and coherent written and oral arguments of varying lengths, developing novel ideas in the context of published work;*
- the ability to prepare oral presentations and reports to professional standards;*
- the ability to comprehend and develop sophisticated concepts and original ideas;*
- enhanced time management and organisational skills including working to deadlines, prioritising tasks, organising work-time;*
- in addition, the programme fosters the development of a range of personal attributes that are important in the world of work, and that strengthens our postgraduates' abilities to engage in lifelong learning and contribute to the wider community. These include personal motivation; the ability to work autonomously and with others; self-awareness and self-management; intellectual integrity; flexibility and adaptability; creativity.*

* transferable skills

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Teaching, learning and assessment

Teaching and learning is mostly by means of guided independent research, laboratory project work and a dissertation project. The taught course and part of the Research Skills course are in most cases taught through a formal lecture programme, augmented by practical exercises (laboratory and theoretical), oral presentations and coursework essays. Assessment of knowledge and understanding is through the dissertation project, and for the taught course and Skills course, through formal examinations, coursework essays, practical work, field and laboratory work and seminar presentations. 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 full-time programme lasts 52 weeks, beginning in September and consists of the following three elements:

Students must take the following:

- GL5100: Research Methods (12.5%) - Students should discuss the subject specific study skills required with their Dissertation Project Supervisors during the first month of their study and provide the Programme Director with a written statement of this component of their course. In certain cases a practically based GL4XXX or GL5XXX course (or part thereof) may be included in this component (such as GIS, Seismic Processing or Environmental Inorganic Analysis).
- GLXXXX: (12.5%) Choose one specialist taught option course in a subject area relevant to the research project topic from a list of courses offered by the Department. The course must be 0.5 course units and selected from a menu of GL4XXX and GL5XXX courses. Students should agree the selection of this course with their Dissertation Project Supervisors within the first week of their study at the latest.
- GL5200: MSc Geology by Research Dissertation (75%) - Students should have agreed the theme of their project with their Dissertation Project Supervisor prior to acceptance onto the Programme. The title and scope of the projects must be finalised by the first week in November at the latest and agreed at the scheduled meeting between Dissertation Project Supervisor, Advisor and Programme Director in the first term.

Please note that the list of available taught courses offered is subject to change and not all courses run each year. A full list of courses for the current academic year can be obtained from the [Department](#).

Part-time programme structure

The part-time programme lasts 104 weeks, beginning in September of year one. Part-time students normally take elements (i), (ii) in their first year, and element (iii) over both years.

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Progression and award requirements

Progression throughout the year/s is monitored through discussion with supervisors, regular meetings with supervisor, advisor and course director, performance in oral presentations, contributions to class discussion and coursework. To pass the programme a student must achieve an overall weighted average of at least 50.00%, with average marks for BOTH the research dissertation and the taught component (GL5100 and taught course) being at least 50.00%. Failure marks between 40-49% can be condoned in courses which do not constitute more than 12.5% of the final assessment, provided that the overall weighted average for the taught component 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 60.00% or above, with no mark in the three courses falling below 50%.

The Masters degree with Distinction may be awarded if a student achieves an overall weighted average of 70.00% or above, and at least 70% for the dissertation, with no mark in any element 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.

A viva will be held for all students.

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Student support and guidance

- All students are allocated a Supervisor who meets with them regularly through the programme. In addition to supervising the research project, the supervisor role is to advise on academic, career, pastoral and welfare issues. Students are also allocated an adviser whose role is to provide backup in case of supervisor absence.
- The Programme Director meets with the students on a regular basis to advise on academic, pastoral and welfare issues.
- The Head of Department, Course coordinators and project supervisors provide a back-up system of academic, pastoral and welfare advice.
- A departmental induction programme is provided in the first week for all new postgraduate students. This provides safety briefings and an introduction to departmental and College facilities.
- All members of staff are available and accessible during office hours.
- Representation on the Student-Staff Committee.
- Approx two-monthly open meetings between the Director of Graduate Studies and all Postgraduate students.
- Detailed Programme and Postgraduate Handbooks and course resources are provided
- Extensive supporting materials and learning resources in College and University libraries and Computer Centre.
- Dedicated departmental teaching laboratories and computing facilities.
- Postgraduate students can take part in social events organised by the New Lyell Geological Society, and there are regular, informal social events in the Department.
- College Careers Service and departmental Careers Service liaison officer.
- Access to all College and University support services, including Student Counselling Service, Health Centre, Students' Union and the Education Support Office for students with special needs.

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Admission requirements

Admission to the programme normally requires a First or Upper Second Class Honours Degree in Geology, Earth Sciences or any appropriate science discipline. 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 relevant industrial experience). Students whose first language is not English must also have 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

Graduates from the MSc by Research (Earth Sciences) have largely progressed onto funded PhD research (7 of 11 students) or geoscience research employment. In addition to the services offered by the College Careers Service, the Department has strong alumni links and links with employers are fostered through the department's External Advisory Board. 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 Department of Earth Sciences was ranked joint 7th in the top 10 universities in the country in terms of proportion of 3* and 4* research, with 70% of its research profile being of 3* and 4* standard.

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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, and leads to an award of the University of London. The Banner programme code is given in parentheses.

Master of Science Programme by Research (Earth Sciences)

MSc by Research (Earth Sciences) (1172)

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