

## Royal Holloway, University of London

### Course specification for an undergraduate award

#### MSci Environmental Geoscience (F631), MSci Environmental Geoscience with a Year in Industry (F644) and MSci Environmental Geoscience with an International Year of Study (F642)

##### Section 1 – Introduction to your course

This course specification is a formal document, which provides a summary of the main features of your course and the learning outcomes that you might reasonably be expected to achieve and demonstrate if you take full advantage of the learning opportunities that are provided. Further information is contained in the University prospectus, and in various handbooks, all of which you will be able to access online. Alternatively, further information on the University's academic regulations and policies can be found [here](#). Further information on the University's Admissions Policy can be found [here](#).

Your degree course in MSci Environmental Geoscience is delivered in four stages, each of which normally comprises one year of full-time study, during which you must follow modules to the value of 120 credits. Although full-time attendance is the normal mode of study, in certain circumstances it may be possible to become study part-time and each stage of the course over two years (60 credits per year). In this case there are no specific requirements in terms of the order in which the respective modules are taken. Please note, however, that the Year in Industry and Year Abroad courses cannot be taken on a part time basis.

The MSci Environmental Geoscience is characterised by the provision of a broad base in skills and knowledge in stages one and two followed by opportunities for specialisation in stages three and four. The course also has a strong compulsory spine in research training and fieldwork, culminating in the production of independent projects in stage 3 and 4. Training in data collection, data analysis and presentation of reports is provided in core modules along with a range of transferrable skills that contribute to the successful progression of Earth Science graduates into a wide range of careers. Teaching and learning in the course are designed to provide graduates with a sound basis of knowledge and skills in the earth and environmental sciences akin to those required by a professional environmental geologist. Specialist modules in stage 3 and 4 are closely informed by the active research of staff and the needs of industry, particularly in the general areas of: Ancient and Modern Earth Systems (modern atmospheres, surface processes, palaeobiology, ancient Earth systems), Tectonics and Basins (sedimentology, mountain evolution, uplift, and erosion, numerical modelling, seismic interpretation, lithospheric and asthenospheric processes) and Geochemistry (palaeoceanography, crust-mantle evolution, plumes and ridges, volcanic arcs). Stage four of the course provides you with modules that encourage you to apply your previous knowledge, understanding and practical skills to research level questions across a wide range of geological environments. In addition you get to nurture your chosen specialism and improve your research skills through undertaking an independent research project worth 50% of the year.

If you are registered on the MSci Environmental Geoscience with a Year in Industry, after your third year of study you will work for 9-12 months in an industrial or public-service laboratory on an approved course of work in the general field of applied geology. Reports of the work undertaken will be assessed and contribute to the final award. In this case the course will last for 5 years.

While Royal Holloway keeps all the information made available under review, courses and the availability of individual modules, especially optional modules are necessarily subject to change at any time, and you are therefore advised to seek confirmation of any factors which might affect your decision to follow a specific course. In turn, Royal Holloway will inform you as soon as is practicable of any significant changes which might affect your studies.

The following is a brief description for some of the most important terminology for understanding the content of this document:

*Degree course* – May also be referred to as 'degree programme' or simply 'programme', these terms refer to the qualification you will be awarded upon successful completion of your studies.

*Module* – May also be referred to as 'course', this refers to the individual units you will study each year to complete your degree course. Undergraduate degrees at Royal Holloway comprise a combination of modules in multiples of 15 credits to the value of 120 credits per year. On some degree courses a certain number of optional modules must be passed for a particular degree title.

| Section 2 – Course details                                            |                                                                                                                                                                                                                                               |                                                              |                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date of specification update                                          | April 2024                                                                                                                                                                                                                                    | Location of study                                            | Egham Campus                                                                                                                                                                                                                                  |
| Course award and title                                                | <ul style="list-style-type: none"> <li>• MSci Environmental Geoscience</li> <li>• MSci Environmental Geoscience with a Year in Industry</li> <li>• MSci Environmental Geoscience with a Year of International Study</li> </ul>                | Level of study                                               | Undergraduate                                                                                                                                                                                                                                 |
| Course code                                                           | <ul style="list-style-type: none"> <li>• 1313 MSci Environmental Geoscience</li> <li>• 2260 MSci Environmental Geoscience with a Year in Industry</li> <li>• 2582 MSci Environmental Geoscience with a Year of International Study</li> </ul> | UCAS code                                                    | <ul style="list-style-type: none"> <li>• F631 MSci Environmental Geoscience</li> <li>• F644 MSci Environmental Geoscience with a Year in Industry</li> <li>• F642 MSci Environmental Geoscience with a Year of International Study</li> </ul> |
| Year of entry                                                         | 2026/27                                                                                                                                                                                                                                       |                                                              |                                                                                                                                                                                                                                               |
| Awarding body                                                         | Royal Holloway, University of London                                                                                                                                                                                                          |                                                              |                                                                                                                                                                                                                                               |
| Department or school                                                  | Department of Earth Sciences<br>School of Life Sciences and the Environment                                                                                                                                                                   | Other departments or schools involved in teaching the course | N/A                                                                                                                                                                                                                                           |
| Mode(s) of attendance                                                 | Full-time                                                                                                                                                                                                                                     | Duration of the course                                       | 4 years MSci Environmental Geoscience, MSci Environmental Geoscience with a Year of International Study<br>5 years MSci Environmental Geoscience with a Year in Industry                                                                      |
| Accrediting Professional, Statutory or Regulatory Body requirement(s) | Geological Society of London.<br>To satisfy the accreditation requirements of the Geological Society of London you will need to meet certain conditions.                                                                                      |                                                              |                                                                                                                                                                                                                                               |

|                                               |                                                                                                           |                            |                                                                                                         |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------|
| Link to Coursefinder for further information: | <a href="https://www.royalholloway.ac.uk/studyinghere/">https://www.royalholloway.ac.uk/studyinghere/</a> | For queries on admissions: | <a href="https://royalholloway.ac.uk/applicationquery">https://royalholloway.ac.uk/applicationquery</a> |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------|

### Section 3 – Degree course structure

#### 3.1 Mandatory module information

The following table summarises the mandatory modules which students must take in each year of study

| Year | Module code | Module title                                   | Credits | FHEQ level | Module status<br>(Mandatory Condonable MC or<br>Mandatory Non-Condonable MNC) |
|------|-------------|------------------------------------------------|---------|------------|-------------------------------------------------------------------------------|
| 1    | GL1101      | Evolving Earth                                 | 30      | 4          | MC                                                                            |
| 1    | GL1201      | Dynamic Planet                                 | 30      | 4          | MC                                                                            |
| 1    | GL1301      | Human Interactions with the Earth              | 30      | 4          | MC                                                                            |
| 1    | GL1500      | Physics and Chemistry of the Earth             | 15      | 4          | MC                                                                            |
| 1    | GL1900      | Earth Scientists Toolkit                       | 15      | 4          | MC                                                                            |
| 2    | GL2200      | Stratigraphy and Past Sedimentary Environments | 15      | 5          | MC                                                                            |
| 2    | GL2210      | Geological Evolution and Deep Time Synthesis   | 15      | 5          | MC                                                                            |
| 2    | GL2320      | Geohazards                                     | 15      | 5          | MC*                                                                           |
| 2    | GL2410      | Geochemistry                                   | 15      | 5          | MC                                                                            |
| 2    | GL2902      | Earth Scientists Practical Toolkit             | 15      | 5          | MC                                                                            |
| 2    | GL2904      | Earth Scientists Environmental Toolkit         | 15      | 5          | MC                                                                            |
| 2    | GL2905      | Earth Scientists Digital Toolkit               | 15      | 5          | MC                                                                            |
| 3    | GL3010      | Techniques in Earth Sciences                   | 15      | 6          | MC                                                                            |

|   |        |                                       |    |   |     |
|---|--------|---------------------------------------|----|---|-----|
| 3 | GL3300 | Aqueous Geology                       | 15 | 6 | MC  |
| 3 | GL3320 | Advanced Geohazards                   | 15 | 6 | MC* |
| 3 | GL3905 | Earth Scientist's Independent Project | 30 | 6 | MC  |

\*\* 3 students on an **MSci with an international year of study** spend the 3<sup>rd</sup> stage studying abroad and should refer to section 4 for further information)

|                                           |        |                                        |    |   |     |
|-------------------------------------------|--------|----------------------------------------|----|---|-----|
| ** 4 (for year in industry students only) | GL3141 | Applied Geology (Industrial Placement) | 30 | 6 | MNC |
| 4 (5 for year in industry students)       | GL4012 | Independent Geosciences Project        | 60 | 7 | MNC |
| 4 (5 for year in industry students)       | GL4040 | Evolution of the Modern Earth          | 15 | 7 | MC  |
| 4 (5 for year in industry students)       | GL4930 | Field and Research Skills              | 15 | 7 | MC  |

This table sets out the most important information for the mandatory modules on your degree course. These modules are central to achieving your learning outcomes, so they are compulsory, and all students on your degree course will be required to take them. You will be automatically registered for these modules each year. Mandatory modules fall into two categories: 'condonable' or 'non-condonable'.

In the case of mandatory 'non-condonable' (MNC) modules, you must pass the module before you can proceed to the next year of your course, or to successfully graduate with a particular degree title. In the case of mandatory 'condonable' (MC) modules, these must be taken but you can still progress or graduate even if you do not pass them. Please note that although Royal Holloway will keep changes to a minimum, changes to your degree course may be made where reasonable and necessary due to unexpected events. For example: where requirements of relevant Professional, Statutory or Regulatory Bodies have changed and course requirements must change accordingly, or where changes are deemed necessary on the basis of student feedback and/or the advice of external advisors, to enhance academic provision.

### 3.2 Optional modules

In addition to mandatory modules, there will be a number of optional modules available during the course of your degree. Although Royal Holloway will keep changes to a minimum, new options may be offered, or existing ones may be withdrawn. For example, where reasonable and necessary due to unexpected events, where requirements of relevant Professional, Statutory or Regulatory Bodies (PSRBs) have changed and course requirements must change accordingly, or where changes are deemed necessary on the basis of student feedback and/or the advice of External Advisors, to enhance academic provision. There may be additional requirements around option selection; please contact the Department for further information.

\*During your degree course you must take a module in Geohazards, either GL2320 Geohazards (15 credits) OR GL3320 Advanced Geohazards (15 credits) depending on the year in which it is offered. These modules are both offered in alternate years only so you will be advised by the Undergraduate Course Lead in which year of study you will need to complete your Geohazards module.

You must choose options to the value of 30 credits if taking GL2320, or otherwise 45 credits in Stage 2, 30 credits if taking GL3320, or otherwise 45 credits in Stage 3, and 30 credits in Stage 4. During Stage 3, you may, with the permission of the UG Education Lead, replace one option with another 15 credit FHEQ level 6 module in Geography.

## Section 4 - Progressing through each year of your degree course

All first-year undergraduate students are required to take and pass the non-credit bearing Moodle-based Academic Integrity module SS1001 in order to progress into the second year of study (unless their course includes the alternative mandatory SS1000 module). The pass mark for the module assessment is stated in the on-line Academic Integrity Moodle module. Students may attempt the assessment as often as they wish with no penalties or capping. Students who meet the requirements for progression as stipulated in the [Academic Taught Regulations](#) but fail to pass the Moodle-based Academic Integrity module will not be permitted to progress into their second year of academic study.

### **MSci Environmental Geoscience**

Part-time students must take modules to the value of 60 credits each year – the split of modules to be agreed with the course director.

### **MSci Environmental Geoscience with a Year of International Study**

The third year of this degree course will be spent studying abroad. Royal Holloway has a number of formal partnerships with institutions in Europe and further afield. You should be aware that placement at a host institution is a competitive process involving an application to the university abroad and this process is supported by Royal Holloway. This year forms an integral part of the degree course. Marks obtained for modules taken at the institution abroad will be credited towards your degree. You must take a selection of modules equivalent to a full academic year of study at an institution overseas; choice of modules is carried out under the guidance of the Course Coordinator. You are also required to complete an independent field-mapping project during the senior stages of your study. This requirement is normally split equally between Year 3 (GL3920) and Year 4 (GL4920).

### **MSci Environmental Geoscience with a Year in Industry**

The fourth year of this degree course will be spent on a work placement. Students are supported by their academic department and the Royal Holloway Careers Service to find a suitable placement. However, Royal Holloway cannot guarantee that all students who are accepted onto this degree course will secure a placement, and the ultimate responsibility lies with the student. You will need to achieve an agreed level of academic performance to proceed onto, or remain on, a placement as detailed in the course specification and the University's Undergraduate Regulations. This year forms an integral part of the degree course and students will be asked to complete assessed work. The mark for this work will count towards the degree as a 30-credit module. GL3141 will be added to your final year giving you a total of 150 credits in year 5. For students on the Year in Industry course GL3141 is mandatory non-condonable and must be passed to qualify for the degree title Year in Industry.

### Section 5 – Educational aims of the course

- to provide a sound and extensive basis for the study of the Geological Sciences relating to the natural environment, meeting the requirements for course accreditation by the Geological Society and the general requirements of the subject benchmarking statement;
- to provide you with knowledge of the science, and equip them with discipline-specific and transferable skills;
- to provide you with core knowledge and a range of key skills;
- to offer a range of specialist modules and research projects which allow you to develop expertise and research interests in your chosen field;
- to produce graduates who are equipped with knowledge and skills appropriate for careers in the Earth Sciences and other disciplines;
- to equip you to carry out independent advanced studies in the Earth Sciences.



## Section 6 - Course learning outcomes

In general terms, the courses provide opportunities for students to develop and demonstrate the following learning outcomes. (*Categories – Knowledge and understanding (K), Skills and other attributes (S), and Transferable skills (\*)*)

| Level 4                                                                                                                         | Level 5                                                                                                                                                  | Level 6                                                                                                                                                                         | Level 7                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Gain an appreciation of whole Earth systems, Earth materials and processes; in theory, in the field, and in the laboratory. (K) | Develop a deeper understanding of the Earth environmental and materials; in theory, in the field, and in the laboratory. (K)                             | Synthesise and apply real world applications in the Earth environment and environmental processes, through guided independent research, e.g., in independent field mapping. (K) | Review and challenge current scientific literature in the realm of whole Earth systems, environmental processes and change. (K)      |
| Appreciate deep time perspectives, including the age of the Earth and key stages in its history. (K)                            | Interpret deep time perspectives, including through stratigraphic mapping, palaeoenvironments and geohazards. (K)                                        | Understand Earth as a planet through deep time, the significance of its biosphere, and geological climate change. (K)                                                           | Discuss the uncertainties and challenges in current environmental change, and be able to make novel contributions to the debate. (K) |
| Understand human interactions with the Earth system. (K*)                                                                       | Understand the complex nature of human interactions with the Earth system on many timescales, and the challenges for sustainability. (K*)                | Understand the practical application of geoscience to the human realm, e.g. in addressing climate change, and to support sustainable development. (K*)                          | Debate and challenge issues and possible solutions to society's need for resources and its impact on the planet. (S*)                |
| Be able to employ the basic tools in the Earth Scientist's toolkit, including field and laboratory equipment. (S)               | Learn advanced skills in the Earth Scientist's toolkit, including geochemical and environmental testing, and digital skills in programming and GIS. (S*) | Demonstrate effective use of practical and digital skills from the Earth Scientists toolkit through significant independent work. (S*)                                          | Be able to integrate practical, digital and theoretical tools in a major piece of independent research. (S*)                         |
| Practice oral and written communication skills. (S*)                                                                            | Employ oral and written communication skills in scientific debate and hypothesis testing. (S*)                                                           | Present scientific understanding through effective oral and written communication skills. (S*)                                                                                  |                                                                                                                                      |

## Section 7 - Teaching, learning and assessment

The learning outcomes are embedded within the mandatory and optional modules available to you. A progression of knowledge and understanding is achieved by starting with a basic grounding, which is subsequently reinforced and developed through application to specialist topics. In stages one and two, different aspects are taught as 30 or 15 credit modules, these modules are linked through tutorial exercises and most importantly through the mandatory field and research skills course where the application of theory and practical skills learnt in class are used to solve geological and environmental problems. In stage three, specialist topics utilise this broad geological grounding to build more in-depth knowledge and understanding of certain geological sub-disciplines. Again, integration of all aspects of the stage 3 taught course occurs through independent projects and the year 3 taught field trip. Practical classes comprise 60% of the timetabled study time, reflecting the emphasis on learning through studying maps, rocks and class work exercises. Lectures are used to introduce material and provide a context for private study. Tutorials supplement and reinforce knowledge and understanding. An appropriate field course provides opportunities for you to apply concepts developed in the classroom and lecture theatre and is a fundamental aspect of the teaching course. Field and laboratory project work carried out as individuals or in teams represents an opportunity for you to develop in-depth knowledge of specialist areas. Transferable, laboratory and field skills are identified within the learning outcomes of modules and summarized in a skills progression chart in the undergraduate handbook. Stage 4 is made up of equal parts taught modules and research project. You can follow your desired specialism through your independent research project. This is supplemented by taught modules which provide the advanced knowledge, critical thinking and research skills required to complete a large research project to a high standard.

Assessment of skills, knowledge and understanding is by means of formal examinations, coursework practical exercises, literature research reports, fieldwork and laboratory exercises and reports, oral presentations and independent dissertations. Independent research projects in stage three provide opportunities to develop and integrate a wide range of discipline-specific and transferable skills and you are encouraged to regard these as an important forum for demonstrating their abilities. Full details of the assessments for individual modules can be obtained from the [Department](#).

Contact hours come in various forms and may take the form of time spent with a member of staff in a lecture or seminar with other students. Contact hours may also be laboratory or, studio-based sessions, project supervision with a member of staff, or discussion through a virtual learning environment (VLE). These contact hours may be with a lecturer or teaching assistant, but they may also be with a technician, or specialist support staff.

The way in which each module on your degree course is assessed will also vary. Assessments designated as 'summative' will receive a mark which will count towards your overall mark for the module, and potentially your degree classification, depending on your year of study. On successful completion of the module you will gain the credits listed.

More detailed information on modules, including teaching and learning methods, and methods of assessment, can be found via the online [Royal Holloway Curriculum Catalogue](#). The accuracy of the information contained in this document is reviewed regularly by the university, and may also be checked routinely by external agencies.

| Section 8 – Additional costs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <p>Students should budget a total of £50 to £350 depending on options taken. Students will need to fund their own meals during most taught field courses (between 5 and 30 days over the full degree). Additionally students undertaking independent geological mapping will need to fund their own transport to the field area and fund their normal living expenses whilst away (30 days).</p> <p>Year in Industry costs (e.g. commuting) are usually the student's responsibility.</p> <p>International Year costs (e.g. flights, visas) are usually the student's responsibility.</p> <p><b>These estimated costs relate to studying this particular degree course at Royal Holloway. General costs such as accommodation, food, books and other learning materials and printing etc., have not been included, but further information is available on our website.</b></p> |  |

| Section 9 – Indicators of quality and standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>QAA Framework for Higher Education Qualifications (FHEQ) Level</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4-7                                                                                                                                         |
| <p>Your course is designed in accordance with the FHEQ to ensure your qualification is awarded on the basis of nationally established standards of achievement, for both outcomes and attainment. The qualification descriptors within the FHEQ set out the generic outcomes and attributes expected for the award of individual qualifications. The qualification descriptors contained in the FHEQ exemplify the outcomes and attributes expected of learning that results in the award of higher education qualifications. These outcomes represent the integration of various learning experiences resulting from designated and coherent courses of study.</p> |                                                                                                                                             |
| <b>QAA Subject benchmark statement(s)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <a href="http://www.qaa.ac.uk/quality-code/subject-benchmark-statements">http://www.qaa.ac.uk/quality-code/subject-benchmark-statements</a> |
| <p>Subject benchmark statements provide a means for the academic community to describe the nature and characteristics of courses in a specific subject or subject area. They also represent general expectations about standards for the award of qualifications at a given level in terms of the attributes and capabilities that those possessing qualifications should have demonstrated.</p>                                                                                                                                                                                                                                                                    |                                                                                                                                             |

| Section 10– Intermediate exit awards (where available)                                                                                                                                                                                               |                                                                                                                                                                                                        |                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| You may be eligible for an intermediate exit award if you complete part of the course as detailed in this document. Any additional criteria (e.g. mandatory modules, credit requirements) for intermediate awards is outlined in the sections below. |                                                                                                                                                                                                        |                                        |
| Award                                                                                                                                                                                                                                                | Criteria                                                                                                                                                                                               | Awarding body                          |
| BSc Environmental Geology                                                                                                                                                                                                                            | Students who fail to progress from stage three to stage four but meet the requirements for an award will normally be awarded a single Honours BSc Environmental Geology degree (you must pass GL3321). | Royal Holloway, University of London   |
| Diploma in Higher Education (DipHE)                                                                                                                                                                                                                  | Pass in 210 credits of which at least 90 must be at or above FHEQ Level 4 and at least 120 of which must be at or above FHEQ Level 5                                                                   | Royal Holloway and Bedford New College |
| Certificate in Higher Education (CertHE)                                                                                                                                                                                                             | Pass in 120 credits of which at least 90 must be at or above FHEQ Level 4                                                                                                                              | Royal Holloway and Bedford New College |