

Royal Holloway, University of London

Course specification for an undergraduate award

BSc Geosciences & Sustainable Energy (FH62)

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 Geosciences & Sustainable Energy provides progressive structures in which you will be able to gain ever-wider knowledge and understanding, and appropriate skills. Stage one of your course contains a combination of mandatory modules to introduce you to sustainable energy resources, including aspects of their societal, economic and environmental impacts as well as to elements of subsurface evaluation (geophysics, geology, sedimentology and stratigraphy) and of geospatial data analysis (GIS) necessary for exploring and producing them. In stage three, you will deepen your knowledge and acquire specific technical skills in specialist disciplines of sustainable energy. In stage three you will also be encouraged to develop your own interests by choosing among various specialist options and you are also required to undertake an independent research project. Your course aims to equip you with a range of personal attributes relevant to the world beyond higher education (HE), allowing you to engage in lifelong learning, to consider ethics and values, and to contribute to the wider community. Your degree course at Royal Holloway, University of London, will be delivered over three years, each of which will require you to take modules to the value of 120 credits (which is equivalent to 60 ECTS credits¹).

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.

¹ The European Credit Transfer and Accumulation System (ECTS) is a learner-centred system for credit accumulation and transfer. ECTS credits reflect the total workload required to achieve defined learning outcomes and their associated workload, including teaching hours and guided independent study. 15 UK credits is equivalent to 7.5 ECTS. 30 UK credits is equivalent to 15 ECTS. Further details on ECTS can be found within the [ECTS User Guide 2015](#).

Section 2 – Course details			
Date of specification update	May 2024	Location of study	Egham Campus
Course award and title	BSc Geosciences & Sustainable Energy	Level of study	Undergraduate
Course code	3542	UCAS code	FH62
Year of entry	2027/28	Language(s) of Tuition	English
Awarding body	Royal Holloway, University of London		
Department	Physical Sciences and Engineering	Other departments involved in teaching the course	N/A
Mode(s) of attendance	Full-time Part-time	Duration of the course	3 years 6 years
Accrediting Professional, Statutory or Regulatory Body requirement(s)	N/A		
Link to Coursefinder for further information:	https://www.royalholloway.ac.uk/studying-here/	For queries on admissions:	https://royalholloway.ac.uk/applicationquery

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 (Mandatory Condonable MC or 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	GL2210	Geological Evolution	15	4	MC
2	GL2410	Geochemistry	15	4	MC
2	GL2600	Structural Analysis and Remote Sensing	15	5	MC
2	GL2901	Geological Mapping Toolkit	15	5	MC
2	GL2902	Earth Scientists Practical Toolkit	15	5	MC
2	GL2905	Earth Scientists Digital Toolkit	15	5	MC
2	GL2740	Sustainable Energy	15	5	MC
3	GL3780	Subsurface Storage of CO2 and Energy	15	6	MC
3	GL3905	Earth Scientist's Independent Project	30	6	MC
3	GL3700	Sub surface analysis	15	6	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.

You must choose either GL2500 Geohazards or GL3500 Advanced Geohazards in the year it is offered.

In stage 2 you must choose modules to the value of 15 credits if you are not taking GL2500 in stage 2.

In stage three you must choose modules to the value of 45 credits if taking GL3500, or up to 60 credits if GL2500 was taken in the second year.

Section 4 - Progressing through each year of your degree course

For further information on the progression and award requirements for your degree, please refer to Royal Holloway's [Academic Regulations](#).

Progression throughout the year/s is monitored through performance in summative or formative coursework assignments. Please note that if you hold a 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.

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 University's Undergraduate Regulations (Section: Conditions for progression to the next stage) but fail to pass the Moodle-based Academic Integrity module will not be permitted to progress into their second year of academic study at the University.

Section 5 – Educational aims of the course

The aims of this course are:

- study geoscience and the interactions of physical, chemical and biological processes relating to the Earth as a dynamic system through time.
- learn about sustainable energy resources, including aspects of their societal, economic and environmental impacts.
- learn about how energy storage technologies are implemented to unlock the full potential of renewable energies.
- consider the application of geoscience and its social and political role to the sourcing and exploitation of sustainable geo resources and renewable energies.
- learn about how to analyse surface and subsurface geological data for the identification of geological settings suitable for sustainable extraction of resources and for storage of CO₂ and energy.

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
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 whole Earth systems, Earth materials and processes; in theory, in the field, and in the laboratory. (K)	A strong understanding of interaction of physical, chemical and biological processes relating to the Earth as a dynamic system through time (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, structural history and integrated analysis. (K)	A strong understanding of the internal structure of the Earth and the link between deep Earth processes and surface processes (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*)	Acquisition of analytical geoscience skills such as geophysics and geospatial data analysis (GIS) (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 geophysical methods and digital skills in programming and GIS. (S*)	Apply technical geoscience skills to critically evaluate geological data for the exploration and production of sustainable energy sources (S*)
Practice oral and written communication skills. (S*)		Develop advanced written and oral communication skills required to effectively produce technical- and business-related reports and presentations (S*)

Section 7 - Teaching, learning and assessment

Teaching and learning on your course is closely informed by the active research of staff, particularly in the areas of geology, geophysics, subsurface exploration and renewable energy. In general terms, the course provides an opportunity for you to develop and demonstrate the learning outcomes detailed herein.

Teaching and learning is mostly by means of practical classes, lectures, seminars, fieldwork and guided independent study. Lectures are used to introduce material and provide a context for independent study. Tutorials supplement and reinforce knowledge and understanding. Field and laboratory project work carried out as individuals or in teams are valuable opportunities for students to develop in-depth knowledge of specialist areas and help bring the syllabus to life.

Assessment is by a mixture of coursework and end-of-year examination in varying proportions, depending on the chosen modules. Coursework can include literature research reports, fieldwork and laboratory exercises and reports, oral presentations and independent dissertations. In the final year you will develop an independent research project and write a research report with individual guidance from your tutor.

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

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).

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.

Section 9 – Indicators of quality and standards	
QAA Framework for Higher Education Qualifications (FHEQ) Level	4-6
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.	
QAA Subject benchmark statement(s)	http://www.qaa.ac.uk/quality-code/subject-benchmark-statements
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.	

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
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