Royal Holloway, University of London
Course specification for an undergraduate award
BSc Geosciences & Sustainable Energy (FH62)

Standard generic text (please convert to black for publication purposes upon completion)

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 College prospectus, and in various handbooks, all of which you will be able to access online. Alternatively, further information on the College's academic regulations and polices can be found here. Further information on the College'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. 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 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 2022	**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	2022/23		
Awarding body	Royal Holloway, University of London		
Department or school	Earth Sciences	**Other departments or schools involved in teaching the course**	
Mode(s) of attendance	Full time & part time	**Duration of the course**	Three years (full time)
Accrediting Professional, Statutory or Regulatory Body requirement(s)			
Link to Coursefinder for further information:	https://www.royalholloway.ac.uk/studying-here/	**For queries on admissions:**	study@royalholloway.ac.uk.

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	Contact hours*	Self-study hours	Written exams**	Practical assessment**	Coursework**	Credits	FHEQ level	Module status (see below)
1	GL1101	Evolving Earth	64	236	10	40	50	30	4	MC
1	GL1201	Dynamic Planet	60	240	25	50	25	30	4	MC
1	GL1301	Human Interactions with the Earth	54	246	75	0%	25	30	4	MC
1	GL1500	Physics and Chemistry of the Earth	64	86	100	0%	0%	15	4	MC
1	GL1900	Earth Scientists Toolkit	122	28	0%	0%	100%	15	4	MC
2	GL2520	Computational Earth Sciences	30	120	50%	0%	50%	15	5	MC
2	GL2600	Structural Analysis and Remote Sensing	57	93	40%	0%	60%	15	5	MC
2	GL2500	Applied Geophysics	24	126	50%	0%	50%	15	5	MC
2	GL2340	GIS and Remote Sensing	30	150	50%	0%	50%	15	5	MC
2	GL2901	Advanced Scientific & Geological Field Skills	163.5	136.5	0%	0%	100%	30	5	MNC
2	GL2730	Sustainable Energy	41	109	50%	0%	50%	15	5	MC
3	GL3780	Subsurface Storage of CO_2 and Energy	80	70	50%	0%	50%	15	6	MC

3	GL3131	Independent research project	90	60	0%	10%	90%	30	6	MNC
3	GL3700	Sub surface analysis	30	120	60	0%	40	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.

*Contact hours come in various different 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, however, the assessments listed above are all 'summative', which means you will receive a mark for it 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. 'Coursework' might typically include a written assignment, like an essay. Coursework might also include a report, dissertation or portfolio. 'Practical assessments' might include an oral assessment or presentation, or a demonstration of practical skills required for the particular module.

3.2 Optional modules

In addition to mandatory modules, there will be a number of optional modules available during the course of your degree. The following table lists a selection of optional modules that are likely to be available. However, not all may be available every year. 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.

Year 1	Year 2	Year 3
	GL2230: Sedimentary basin analysis	GL3650: Modern Climate Change

	GL2330 Meteorology	GL3300: Aqueous Geology
	GL2400: Igneous and Metamorphic Geology	GL3510: Planetary Geology and Geophysics
		GL3460: Volcanology
		GL3600: Advanced Techniques in Tectonic and Structural Interpretation
		GL 3001: Advanced Concepts and Techniques in Geology
		GL 3200 Marine Geology
		GL 3210 Advanced Topics in Sedimentology
		GL 3510 Planetary Geology and Geophysics
		GL 3700 The Geology of Petroleum
		GL 3940 Methods of Environmental Investigation

3.3 Optional module requirements

In stage 2 you must choose modules to the value of 15 credits
In stage three you must choose modules to the value of 60 credits

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.

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 College'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 College.

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 CO_2 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 (*)*)**	
1. A strong understanding of interaction of physical, chemical and biological processes relating to the Earth as a dynamic system through time (K) 2. A strong understanding of the internal structure of the Earth and the link between deep Earth processes and surface processes (K) 3. Acquisition of analytical geoscience skills such as geophysics and geospatial data analysis (GIS) (S) 4. Apply technical geoscience skills to critically evaluate geological data for the exploration and production of sustainable energy sources (S*) 5. 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.

Section 8 – Additional costs
The department will provide you with a set of essential fieldwork equipment, for example a hard hat, compass in your first year. There are mandatory field trips in year 1, for which you will be asked to make a contribution towards costs of £250. There are mandatory field trips in year 2, for which you will be asked to make a contribution towards costs of £200 per year. The remaining costs towards field trips are subsided by the department.
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 – Further information
This specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate when taking full advantage of the learning opportunities that are available. More detailed information on modules, including teaching and learning methods, and methods of assessment, can be found via the online Module 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, such as the Quality Assurance Agency (QAA). Your course will be reviewed regularly, both by the university as part of its cyclical quality enhancement processes, and/or by your department or school, who may wish to make improvements to the curriculum, or in response to resource planning. As such, your course may be revised during the course of your study at Royal Holloway. However, your department or school will take reasonable steps to consult with students via appropriate channels when considering changes. All continuing students will be routinely informed of any significant changes.

Section 11 – 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

Section 12 - Associated award(s)	
BSc Geosciences & Sustainable Energy (FH62)	