

Royal Holloway, University of London
Course specification for a postgraduate award
MSc GLOBAL HEALTH: FOOD SECURITY, SUSTAINABILITY AND BIODIVERSITY (3654)

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](#).

Our food, health and livelihoods depend on a healthy, biodiverse environment. However, our environment faces many threats, from climate change, poor air quality, urbanisation, unsustainable farming practices and a growing human population. This joint MSc between Royal Holloway, University of London (RHUL), and the Royal Botanic Gardens (RBG) Kew will train the next generation of scientists, policymakers, and business leaders to address these global sustainability challenges, as recognised by researchers, governments and international agencies. There will be many future opportunities for our graduates as business investment, research funding and government policies are increasingly directed towards improving sustainability. There is also an acceptance that these challenges need to be tackled holistically, requiring expertise across disciplines. This course will therefore train our students in a range of disciplines so that they can participate in interdisciplinary research or go into employment. Due to the expertise of RBG Kew, elements of the course will be set in the context of plant and fungal science. The course features taught modules across the first two terms which have been designed to accommodate students from a range of backgrounds or following breaks in study. Module 1 (The role of biodiversity in human and environmental health) introduces the general concepts, terms and frameworks which are needed throughout the course giving students the ability to critically analyse the relationships between biodiversity, environmental health and human health. Module 2 (Sustainability and human livelihoods) puts these concepts in context, giving students an overview of sustainability challenges across the world, knowledge of changes through time and an ability to critically evaluate the methods used to gather evidence in science and policymaking. Module 3 (Innovations in food security) evaluates recent innovations in food security and examines the economic and scientific approaches which will improve the sustainability of food supply chains. Module 4 (Data analysis and research skills) provides students with the skills in data analyses and visualisation which are then applied to their independent research project. Transferrable skills such as communication, writing, teamwork and time management skills are taught throughout the course. Students will put these skills into practice in module 5 (Wakehurst field course) during a two-week residential course at Kew's wild botanic gardens, Wakehurst in Sussex, where they will be taught field research skills and complete a group project. Module 6 is the independent research project, which is completed in term 3, with a supervisor from both Royal Holloway and RBG Kew in most cases. Although some student's interests may necessitate a supervisor from another institution, there must be at least one supervisor from Royal Holloway or Kew. This MSc has been shaped by the increasingly strong collaborative links that exist between RHUL and RBG Kew, and is a true partnership in terms of delivery of shared teaching and supervision across complementary academic and research areas. Our shared objective is to deliver highly skilled, trained, and knowledgeable graduates with excellent prospects for employment in industry, environmental consultancies, local authorities, research institutes, government agencies, and academia via further studies. Research-led scientific developments and innovations, emerging technologies, state of the art techniques, indigenous knowledge, and international legislation will be taught using an interdisciplinary approach, whilst also providing practical training in research and employability skills. Utilising global links and emphasising global aspects throughout will ensure that this MSc is relevant to UK and international students alike.

The course is delivered over one year of full-time study (52 weeks) or up to two years of part-time study (104 weeks). Teaching takes place during the day over two terms from September to April. The dissertation is submitted in August/September. Whilst being a self-contained degree in its own right, the course provides suitable and recognised qualification for entry to PhD study in the same or a closely related field. This MSc is jointly delivered by Royal Holloway, University of London, and the Royal Botanic Gardens Kew (RBG Kew) and so students will spend equal time at Royal Holloway's campus in Egham and at Kew's main site in Richmond during the taught modules in terms 1 and 2.

Part-time students will complete the course on a blocked basis for the taught elements (autumn/spring terms). This enables completion of half of the course in year 1 and half of the course in year 2. This is approximately 11 taught weeks in year 1 and 10 taught weeks in year 2, subject to term dates and timetabling. The research project is completed primarily in year 2, however some preparatory work may be completed during the summer term of year 1.

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 – Also referred to as 'course', this term refers to the qualification you will be awarded upon successful completion of your studies. 'Courses' were formerly known as 'programmes' at Royal Holloway.

Module – This refers to the credits you will study each year to complete your degree course. Postgraduate taught degrees at Royal Holloway comprise 180 credits. On some degree courses a certain number of optional modules must be passed for a particular degree title. 'Modules' were formerly known as 'course units' at Royal Holloway.

Section 2 – Course details			
Date of specification update	May 2024	Location of study	RHUL, Egham (50%) and RBG Kew, Richmond (50%)
Course award and title	MSc Global Health: Food Security, Sustainability and Biodiversity	Level of study	Postgraduate
Course code	3654	Year of entry	2024/25
Awarding body	Royal Holloway and Bedford New College		
Department/ School	Health Studies/ School of Life Sciences and the Environment	Other departments or schools involved in teaching the course	Biological Sciences, Business and Management, Classics, Earth Sciences, and Politics, International Relations and Philosophy.
Mode(s) of attendance	In-person	Duration of the course	One year (52 weeks) full-time Two years (104 weeks) part-time
Accrediting Professional, Statutory or Regulatory Body requirement(s)	N/A	For queries on admissions:	https://royalholloway.ac.uk/applicationquery
Link to Coursefinder for further information:	https://www.royalholloway.ac.uk/studying-here/postgraduate/health-studies/msc-food-security-sustainability-and-biodiversity/		

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				
Module code	Module title	Credits	FHEQ level	Module status (see section 6)
HE5022	The role of biodiversity in human and environmental health	30	7	MC
HE5023	Sustainability and human livelihoods	30	7	MC
HE5024	Innovations in food security	30	7	MC
HE5025	Data analysis and research skills	15	7	MC
HE5026	Wakehurst field course	15	7	MC
HE5021	Independent research project	60	7	MNC

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. Mandatory modules fall into two categories; 'condonable' or 'non-condonable'.

In the case of mandatory 'non-condonable' (MNC) modules, you must pass the module to successfully graduate with a particular degree title, or before you can proceed to the next year of your course where studying part-time. 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. There is a minimum number of MC modules which must be passed in order to graduate (for more information see [Academic Regulations](#) on condonable fails and resit opportunities). 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

There are no optional modules for this course. 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.

Optional modules.

Module Title	Credits	Module Title	Credits
n/a			

3.3 Optional module requirements

n/a

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](#). Part time students will be required to agree a timetable with the course leader prior to the commencement of studies.

All postgraduate taught students are required to take and pass the non-credit bearing Moodle-based Academic Integrity module SS1001 in order to be awarded. 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 otherwise meet the requirements for award as stipulated in the [Academic Taught Regulations](#) but fail to pass the Moodle-based Academic Integrity module will not be awarded.

Progression throughout the year/s is monitored through performance in summative or formative coursework assignments. Please note that if you hold a Tier 4 (General) 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.

Section 5 – Educational aims of the course
<p>The aims of this course are to:</p> <ul style="list-style-type: none"> • Develop an understanding of the concepts, terms and frameworks associated with biodiversity research to synthesise and evaluate the relationships between biodiversity, environmental health and human health; • Enhance knowledge of global sustainability research and challenge and foster an appreciation of how these have changed through time to critically analyse new approaches to sustainability; • Develop the skills and knowledge to critically evaluate recent commercial, scientific and policy innovations in food security, as applied to the challenges facing different communities around the world; • Develop the subject-specific and transferrable skills and techniques that will facilitate progression to Mphil/PhD studies or employment; • Develop the skills needed to work in teams and independently, and to communicate research findings and evidence to diverse audiences through different mechanisms; • Enable the application of appropriate methodologies and techniques to the planning, collection, analysis, interpretation and visualisation of research data.

Section 6 - Course learning outcomes			
In general terms, the courses provide opportunities for students to develop and demonstrate the following learning outcomes. (<i>Categories – Knowledge and understanding (K), Skills and other attributes (S), and Transferable skills (*)</i>)			
Course learning outcome	Stage 1/Term 1	Stage 2/Term 2	Stage 3/Term 3
<p>Synthesise and evaluate the latest scientific advances in biodiversity, sustainability and food security research, particularly those that relate to plant and fungal science.</p> <p>Review international frameworks which aim to improve biodiversity, environmental health and human health.</p> <p>Appreciate the challenges faces by communities around the world and critically analyse methods which change the sustainability of human livelihoods, both locally and globally.</p> <p>Reflect on the fundamental scientific, commercial and economic principles</p>	<p>Synthesise and critically evaluate the evidence for the relationships between biodiversity, environmental health and human health.</p> <p>Describe and discuss the global distribution of useful species, ecosystems and biomes, and the challenges they face.</p> <p>Articulate the process of domestication and understand the underlying genomic and phenomic concepts.</p> <p>Evaluate relevant international frameworks (e.g. sustainable development goals, natural capital and ecosystem services) as</p>	<p>Articulate the fundamental scientific, commercial and economic principles associated with food security nationally and globally and apply these to critically assess recent innovations in food security (e.g. drones, robots, artificial intelligence, genetic modification, gene editing, novel crops and novel farming practice).</p> <p>Evaluate the role of landscape/environmental management to deliver environmental and societal benefits and apply relevant environmental frameworks (e.g. natural capital principals) to reflect these.</p>	<p>Devise novel, relevant and appropriate hypotheses which can be empirically tested and then plan a research study (including choosing and developing methodologies) to collect data which can test the devised hypotheses.</p> <p>Critically analyse and evaluate data using correct statistical methods.</p> <p>Manage time appropriately so that planning, background reading, data collection and analysis are done in a timely fashion.</p> <p>Apply writing skills to write up research findings in the style of a scientific journal</p>

<p>associated with food security and apply these to evaluate recent innovations.</p> <p>Utilise and critically interrogate the data sources which are used in scientific research, innovation and policymaking.</p> <p>Apply appropriate methodologies and techniques to plan, collect, analyse, interpret and visualise research data.</p> <p>Effectively communicate innovations in biodiversity, sustainability and food security using the most appropriate method and following best practice.</p> <p>Work professionally both independently and as a member of an interdisciplinary team.</p>	<p>applied to biodiversity, environmental health and human health.</p> <p>Consider the development of agriculture throughout human history and critically analyse changes to the environmental footprint and nutritional costs and benefits of food production and of dietary choices.</p> <p>Critically evaluate approaches which change the sustainability of food production systems and discuss the challenges we face to feed a growing human population.</p> <p>Define and reflect on which crops and their traits make them useful, nutritious and sustainable by understanding the needs of different communities and nations.</p> <p>Interrogate the use of different methodologies for data collection and data sources to quantify the sustainability challenges for different communities and countries.</p>	<p>Discuss the principals of seed science and seed banking and understand how to apply genomic principals to identify useful biological traits in crop breeding to develop crops from underutilized species and conserve threatened taxa.</p> <p>Synthesise the methods and uses of plant derived chemicals within agricultural innovations.</p> <p>Apply scientific methods to generate testable hypotheses and null hypotheses and design experiments which are able to collect appropriate data to support these hypotheses.</p> <p>Carry out data manipulation, quality control and calculate summary statistics using Microsoft Excel and then upload data to appropriate statistical software (e.g. R).</p> <p>Critically evaluate a dataset, for example in terms of explanatory and response variables and categorical and continuous variables, and use this to identify and carry out the most appropriate statistical test. Interpret these results in an applied context.</p> <p>Discuss the concepts and methodologies for the collection of spatial data, including the need to collect accurate metadata, and apply this to learning in the use of mapping software (e.g. ArcGIS) to create spatial representations of empirical data.</p> <p>Understand good practices for safe, accurate, timely and reliable field based</p>	<p>and apply communication skills to present novel findings at a scientific event.</p>
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		<p>data collection and apply these to plan, design and execute a field-based research project.</p> <p>Evaluate and critically analyse data to draw appropriate conclusions.</p> <p>Write up a study in the form of a short scientific communication.</p> <p>Work effectively as part of a multi-disciplinary team and present research findings to an audience.</p>	
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Section 7 - Teaching, learning and assessment

Teaching and learning in the courses are closely informed by the active research of staff. In general terms, the courses provide opportunities for students to develop and demonstrate knowledge of both core subject material and specialised research areas, and for students to develop and demonstrate the above learning outcomes. Teaching and learning is mostly by means of lectures, workshops, seminars (internal and external), study visits, practicals (field, laboratory and computer based), group activities, coursework assignments, a residential field course, a supervised individual project, and guided independent study. We have considered accessibility and inclusivity throughout the course, including in the selection of external trips. For more information, please contact the course leader. Assessment of knowledge and understanding is typically by coursework assignments and a supervised independent project. Details of the assessments for individual courses can be obtained from the [Module Catalogue](#).

Teaching will be carried out at Royal Holloway (Egham) and Kew (Richmond) and students will be expected to spend approximately half of their time at each institution in terms 1 and 2. Assessments will be carried out by staff at Royal Holloway and Kew, and this will also be split equally between institutions. The location for the final research project will be dependent on the project selected. Students may spend more of their time at Royal Holloway or Kew in term 3 depending on the nature of their project, subject to agreement with their project supervisors and course leaders.

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 [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.

Section 8 – Additional costs

There are no single associated costs greater than £50 per item on this degree course. All recommended reading will be available for free via the library catalogue. It should be noted that students will be responsible for the costs of travel to Kew (Richmond) and Royal Holloway (Egham) to attend the course. There will be no travel costs for external study visits, field trips and the residential field course (Wakehurst). Travel, accommodation and food will be provided during the Wakehurst field course at no cost.

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	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>	
QAA Characteristics Statement (Master’s Degrees) – September 2015	https://www.qaa.ac.uk/en/quality-code/supporting-resources
<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 – 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.

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
PG Diploma	Passes in at least 120 credits, with fails of between 40% to 49% for up to 40 credits condonable (with the exception of any course specific requirements).	Royal Holloway and Bedford New College
PG Certificate	Passes in at least 60 credits with no condonable fails	Royal Holloway and Bedford New College

Section 12 - Associated award(s) with Banner Codes

PGDip Global Health: Food Security, Sustainability and Biodiversity (3655)	PGCert Global Health: Food Security, Sustainability and Biodiversity (3656)
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