

Royal Holloway, University of London
Course specification for an undergraduate award
BSc Mathematics and Philosophy (GV15)

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 policies can be found [here](#). Further information on the College's Admissions Policy can be found [here](#).

Your degree course in BSc Mathematics and Philosophy provides progressive structures in which you will be able to gain ever-wider knowledge and understanding, and appropriate skills. The philosophy component of your course contains a combination of mandatory modules to introduce you to historical periods, to the principle literary genres, and to contemporary critical and theoretical approaches, with a range of stage two and three specialist options. In stage two and three, you are encouraged to develop your own interests through informed choice among specialist options. In stage three, you are also required to write long essays. In stage one, the Department of Mathematics seek to provide a broadly based introduction to mathematics, which will develop manipulative skills, understanding of the key concepts and the ability to construct logical arguments. In stage two, you will take modules which continue your study of abstract pure mathematics and its applications. In stage three, you take modules to the value of 60 credits and are advised on appropriate combinations and pathways depending on your interests, stage one and two options, and possible future career paths. 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 courses at Royal Holloway, University of London, will be delivered over three years, each of which normally involves modules to the value of 120 credits.

For joint and combined honours courses, please refer to the course specification for your secondary department's corresponding single honours course for further information on educational aims, and learning outcomes.

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 tit

Section 2 – Course details			
Date of specification update	February 2022	Location of study	Egham Campus
Course award and title	BSc Mathematics and Philosophy	Level of study	Undergraduate
Course code	3512	UCAS code	GV15
Year of entry	2022/23		
Awarding body	Royal Holloway, University of London		
Department or school	School of Law and Social Science	Other departments or schools involved in teaching the course	Department of Mathematics School of Engineering, Physical and Mathematical Sciences
Mode(s) of attendance	Full-time	Duration of the course	3 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:	Admissions Enquiry Form (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	PY1002	Introduction to Modern Philosophy	20	130	0	0	100%	15	4	MC
1	PY1101	Problems of Knowledge	20	130	0	0	100%	15	4	MNC
1	PY1202	Philosophical Methods	20	130	0	0	100%	15	4	MC
1	PY1103	Introduction to Formal Logic	20	130	100%	0	0	15	4	MC
1	MT1710	Calculus I	30	120	60%	0	40%	15	4	MC
1	MT1720	Calculus II	30	120	60%	0	40%	15	4	MC
1	MT1810	Introduction to Pure Mathematics	39	111	60%	10%	30%	15	4	MC
1	MT1820	Linear Algebra I	39	111	60%	10%	30%	15	4	MC
2	MT2320	Probability Theory	30	120	60%	0	40%	15	5	MC
2	MT2800	Linear Algebra II	30	120	60%	0	40%	15	5	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 departments for further information.

Year 1	Year 2	Year 3
None	60 credits: Philosophy options	60 credits: Philosophy options
	60 credits: Mathematics options. Examples of optional modules include: MT2220 Vector Calculus, MT2500 Scientific Programming, MT2720 Ordinary Differential Equations and Fourier Analysis, MT2830 Ring Theory, MT2900 Complex Analysis	60 credits: Mathematics options. Examples of optional modules include: MT3000 Mathematics Project, MT3050 Advanced Skills,, MT3090 Mathematics in the Classroom, MT3110 Number Theory, MT3280 Non-Linear Dynamical Systems: Routes to Chaos, MT3320 Statistical Inference, MT3360 Markov Chains and Applications, MT3450 Quantum Information Theory, MT3470 Financial Mathematics I , MT3480 Financial Mathematics II , MT3690 Game Theory, MT3910 Topology

3.3 Optional module requirements

Year 2

Students must take options to the value of 60 credits from Stage 2 modules offered by the Department of **Mathematics**, and options to the value of 60 credits from Stage 2 modules offered by the Department of **Philosophy**. For **Philosophy**, students must choose **at least** 30 credits from the following options basket:

PY2001 Kant (15 credits)

PY2002 Mind and World (15 credits)

PY2202 Empiricism and Rationalism (15 credits)

PY2900 Race, Gender and Queer Philosophy (15 credits)

Year 3

Students must choose 60 credits of options from the list of **Stage 3** modules offered by the Department of **Mathematics** and 60 credits of options from the list of stage 3 modules offered by the Department of **Philosophy**.

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 students on single, joint or combined honours courses offered all or in part by the School of Humanities, School of Performing and Digital Arts, or department of Politics, International Relations and Philosophy are required to pass a Moodle-based writing skills quiz in order to progress into the second year of study. The pass mark for the test is 60%. Certificates of Distinction are awarded to students who achieve at least 80% in the quiz. Students may attempt the quiz 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 quiz 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:

- to expose you to a broad and coherent philosophical curriculum that draws on both the European and Anglo-American traditions;
- to present an appreciation of philosophy that stresses its pertinence to other areas of intellectual inquiry;
- to provide you with sufficient choice to allow you to pursue your philosophical interests where possible;
- to engender a range of subject-specific and general intellectual skills through a variety of learning activities geared to the study and practice of philosophy;
- to learn technical manipulative skills, the ability to read and write in the compressed language of mathematics, and the ability to distil a problem into a mathematical description of its essential detail;
- to gain an appreciation of, and interest in, the logical structure of mathematics, and its use as an analytical and predictive tool in applications;
- to provide a curriculum that draws on recent staff scholarship and a broader research culture of intellectual enquiry and debate

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>)	
<ol style="list-style-type: none"> 1. a grounding in many of the central theories in the fields of logic, epistemology, metaphysics, moral and political philosophy, aesthetics and philosophy of mind (K); 2. a critical engagement with some of the topics that are of interest to philosophers working today (K); 3. a critical appreciation of the wide application of the techniques of philosophical reflection to the concerns of contemporary society (K); 4. the knowledge to situate historically and conceptually the central figures in the history of philosophy, and the diversity of philosophical methods, styles and problems (K); 5. an ability to interpret and critically engage with key philosophical texts, constituting a variety of traditions and ranging historically from the Ancient through to the contemporary (K); 6. knowledge and understanding of mathematical methods (K); 7. knowledge and understanding of mathematical concepts such as number and function (K); 8. knowledge and understanding of abstract structures such as groups, matrices, and fields (K); 9. knowledge and understanding of some results from a range of major areas of mathematics, statistics or operational research (K); 10. knowledge and understanding of at least one major area of applications in which the mathematics is used in a serious manner and is essential for proper understanding (K); 11. a high level of numeracy (S); 12. ability to manipulate and analyze complex mathematical expressions accurately (S); 13. ability to understand the role of logical mathematical argument and deductive reasoning, including formal proof (S); 14. familiarity with computer methods in mathematics and statistics (S); 15. ability to formulate problems in mathematical or statistical form using appropriate notation (S); 	<ol style="list-style-type: none"> 17. an ability to summarise complex philosophical arguments and to present critical evaluations both orally and writing (S); 18. command of a wider vocabulary and appropriate critical and theoretical terminology (S); 19. the capacity to work in groups in order to further understanding, and to communicate and defend arguments to peers (S*); 20. competence in the analysis of arguments, and an awareness of such features as persuasion and intended audience (S*); 21. bibliographical skills appropriate to the subject including accurate citation of sources and consistent use of conventions in the presentation of scholarly work (S); 22. the capacity to evaluate and adjudicate between competing normative claims (S*); 23. the ability to assimilate and communicate complex ideas (S*);

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| 16. ability to solve equations or inequalities arising from a problem analytically or numerically, and to interpret the results (S); | |
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Section 7 - Teaching, learning and assessment

Teaching, learning and assessment methods serve the course aims by recognising your expanding knowledge and command of correlated skills as you progress from stage one to stage three and both acknowledging and encouraging your increased intellectual independence. Teaching and learning is by lectures, small group tutorials or seminars, written and oral feedback on coursework, guided independent study and oral presentations. You are in addition encouraged to read around the subject, and at the end of the first and second stages you write essays or projects on topics of your own choice. Assessment is typically by formal examinations and in certain modules in-term tests, projects, coursework essays and oral presentations. Full details of the assessment methods for individual modules may be obtained from the departments.

Section 8 – Additional costs

There are no other associated costs on this degree course.

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 Mathematics and Philosophy	