Royal Holloway, University of London
Course specification for an undergraduate award
BSc Mathematics with French (G1R1)

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 Mathematics with French is delivered in three stages each of which comprises one year of full-time study during which you must follow modules to the value of 120 credits.

In stage one the mandatory modules you will take in the Department of Mathematics it 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 take modules which continue your study of abstract pure mathematics and its applications. In stage three, you choose optional modules in Mathematics to the value of 90 credits and you will be advised on appropriate combinations and pathways depending on your interests, stage one and two options, and possible future career paths. You may choose to undertake an extended project.

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 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 2020	**Location of study**	Egham Campus
Course award and title	BSc Mathematics with French	**Level of study**	Undergraduate
Course code	1284	**UCAS code**	G1R1
Year of entry	2020/21		
Awarding body	Royal Holloway, University of London		
Department or school	Mathematics	**Other departments or schools involved in teaching the course**	Languages, Literatures and Cultures
Mode(s) of attendance	Full-time	**Duration of the course**	Three years
Accrediting Professional, Statutory or Regulatory Body requirement(s)	Accredited by the Institute of Mathematics and its Applications (IMA) for the purpose of meeting in part the educational requirement for chartered status.		
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	MT1710	Mathematics: Calculus I	42	108	85%	0	15%	15	4	MC
1	MT1720	Mathematics Calculus II	39	111	85%	0	15%	15	4	MC
1	MT1810	Mathematics: Introduction to Pure Mathematics	48	102	85%	0	15%	15	4	MC
1	MT1820	Mathematics: Linear Algebra I	39	111	85%	0	15%	15	4	MC
1	MT1940	Mathematics: Real Analysis	39	111	85%	0	15%	15	4	MC
2	MT2500	Mathematics: Scientific Programming	57	93	0	0	100%	15	5	MC
2	MT2800	Mathematics: Linear Algebra II	30	120	85%	0	15%	15	5	MC
3	FR3009	French: Pratique du Français III	70	230	50%	50%	0	30	6	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 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, so it is important that this specification is read alongside your department's Student Handbook, which you can access via the Mathematics webpage.

Stage 1	Stage 2	Stage 3
Mathematics: MT1110 Introduction to Geometry	Mathematics: MT2220 Vector Calculus	Mathematics: MT3000 Mathematics Project
Mathematics: MT1210 Introduction To Applied Maths	Mathematics: MT2320 Probability Theory	Mathematics: MT3090 Mathematics in the Classroom
Mathematics: MT1300 Statistical Methods	Mathematics: MT2630 Graphs and Optimisation	Mathematics: MT3110 Number Theory I
	Mathematics: MT2720 Differential Equation and Fourier Analysis	Mathematics: MT3120 Number Theory II
	Mathematics: MT2860 Groups and Group Actions	Mathematics: MT3210 Quantum Information and Coding
		Mathematics: MT3470 Financial Mathematics I

3.3 Optional module requirements

Stage one:
In addition to the **Mathematics** mandatory modules you must choose one option (15 credits) from MT1210, MT1300 and MT1100.

For your **French** modules, you must take the following **mandatory** modules:
If you have GCSE French or no prior knowledge of the language: FR1601 French Ab Initio Written I (15 credits) (MNC) and FR1602 French Ab Initio Oral I (15 credits) (MC)
OR
If you have A-Level French: FR1701 French Advanced Written I (15 credits) (MNC) and FR1702 French Advanced Oral I (15 credits) (MC)

Stage two:
In addition to the Mathematics mandatory modules you must choose 60 credits of options from the available second year options in the Department of **Mathematics**.

For your **French** modules, you must take the following **mandatory** modules:
If you have GCSE French or no prior knowledge of the language FR2010 Intensive French for Beginners 1 (30 credits) (MNC)
OR
If you have A-Level French - FR2009 Pratique du Français I (30 credits) (MNC)

Stage three:
You must choose 90 credits of options from the available final year options in the Department of Mathematics.

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:

Mathematics:

- to provide you with 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 ensure that you gain an appreciation of, and interest in, the logical structure of mathematics, and its use as an analytical and predictive tool in applications;
- to offer a wide range of optional modules to suit your interests and strengths;
- to provide access to personal, academic and pastoral support;
- to enable you, on graduation, to compete effectively in employment or postgraduate study.

French

- to familiarise you with the scholarly and critical discourse in French so that you are able to engage in expression, discussion and research through the medium of French.

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. of mathematical methods **(K)**;
2. of mathematical concepts such as number and function **(K)**;
3. of abstract structures such as groups, matrices, and fields **(K)**;
4. of some results from a range of major areas of mathematics, statistics or operational research **(K)**;
5. 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)**;
6. a high level of numeracy **(S)**;
7. ability to manipulate and analyse complex mathematical expressions accurately **(S)**;
8. ability to understand the role of logical mathematical argument and deductive reasoning, including formal proof **(S)**;
9. familiarity with computer methods in mathematics and statistics **(S)**;
10. ability to formulate problems in mathematical or statistical form using appropriate notation **(S)**;
11. the ability to solve equations or inequalities arising from a problem analytically or numerically, and to interpret the results **(S)**;
12. accurate analysis of a situation, the factors involved and possible approaches to solution. This is embedded in a general ethos of numeracy and of analytical approaches to problem solving **(S)**;

13. ability to take theoretical knowledge gained in one area and apply it elsewhere **(S)**;
14. ability to make a sequence of logical steps, and reflect on the result **(S)**;
15. ability to communicate mathematical results clearly, to both mathematicians and lay persons **(S)**;
16. spatial awareness in two and three dimensions **(S)**;
17. good general skills of time-management and organization **(S*)**;
18. to learn independently, using a variety of media including books, learned journals, the internet etc **(S*)**;
19. to work independently with persistence and patience, pursuing the solution of problems to their conclusion **(S*)**;
20. develop IT skills, including word-processing and use of the internet **(S*)**;
21. personal motivation and the planning of a career path **(S*)**;
22. good written and oral communication skills, which enable them to write coherently and turn a rough draft into a convincing argument and contribute to discussions **(S*)**;
23. ability to work together with others as a team **(S*)**.

Section 7 - Teaching, learning and assessment
Teaching and learning is mostly by means of lectures, small group tutorials, problem-solving workshop sessions, written and oral feedback on coursework, practical sessions in statistics and computational mathematics, guided independent study and oral presentations. Students are in addition encouraged to read around the subject, and at the end of the first and second stages they write essays or projects on topics of their 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 Mathematics Department and School of Modern Languages, Literatures and Cultures.

Section 8 – Additional costs
There are no other essential costs associated with 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)
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