Programme Handbook for Mathematics 2022-23

PART A: SCHOOL INFORMATION

A1. How to Use This Handbook 2
A2. Welcome and Introduction 2
A3. Globally Connected Learning 3
A4. Personal Tutors 4
A5. Key Staff Contact Details 4
A6. Programme Overview 5
A7. Programme Structure and Delivery 14

PART B: UNIVERSITY INFORMATION

B1. Programme and Course Content 24
B2. Our Values 24
B3. Student Partnership Agreement 24
B4. University Regulations 24
B5. Your Student Portal 25
B6. Your Virtual Learning Environment 25
PART A: SCHOOL INFORMATION

A1. How to Use This Handbook

This handbook provides you with:

- An overview of your programme, its structure and its courses.
- Contact information for key staff in your programme, subject and academic School.
- Details of support and resources available to you as a Heriot-Watt student.

Take time to look through the information provided, but also use it for reference if you are unsure of anything, if you want to contact someone, or if you want to find out more about any aspect of your studies. This Handbook is not just for your first week or two at University, nor is it something to be read once and discarded, you will find it useful to refer back to its contents in the coming weeks and months. If you can’t find the information you are looking for then you can ask your personal tutor.

All information is correct at the time the Handbook was produced.

A2. Welcome and Introduction

Welcome from the Principal and Vice Chancellor of Heriot-Watt University

I am delighted that you have chosen our unique and innovative University and have entrusted us with your education for the next few years. Heriot-Watt has been at the forefront of pioneering education and future thinking since 1821, and now more than 200 years on, we continue to lead the way in world class education as a distinctive, globally connected institution.

The global pandemic affected all of us, not least in how institutions delivered learning and teaching. You may have studied extensively online in the last year or two. Fortunately, we are now able to look forward to enhancing our on-campus learning and teaching, and offering an outstanding on-campus student experience at all of our global campuses, which is so valued by our students.

We have developed a unique approach to learning for this academic year called Globally Connected Learning, which blends on-campus teaching with online activities, support and resources to create a rich student learning experience. This will allow you to actively participate in the learning opportunities open to you and to engage with the global Heriot-Watt community, which spans five campuses in three countries.

The University is a community of people, with a purpose, and I would encourage you to seek out the opportunities that will enable you to further develop your own individual sense of purpose to impact society. Many students and staff participate in creating their own ‘impact statement’ during the course of their studies, so do look out for this.

Throughout your studies you will have the opportunity to thrive both personally and academically, and I would encourage you to take advantage of all that our campuses, student societies and global community has to offer you. As a University committed to preparing you for your future, we’re delighted to offer opportunities for students to gain a global perspective, whether at a single campus or abroad. Our Go Global programme will continue to offer inter-campus transfers and exchanges across our campuses in Dubai,
Scotland and Malaysia, allowing you to study, socialise or experience new cultures and places. We encourage you to connect with likeminded individuals across the globe and grasp every opportunity with both hands.

Our graduates are sought-after by global professions and industries all over the world. The very nature of a Heriot-Watt education is one that allows you to benefit from our research-informed approach, underpinned by our rich heritage and values. We’re dedicated to providing you with the confidence and purposeful leadership skills to be a global citizen, and the expertise to one day become a leader in your chosen field or career. Together we will help shape tomorrow to deliver benefits for all of society.

We look forward to supporting you as you grow and become a successful graduate of Heriot-Watt University. On behalf of our global OneWatt community, I’d like to take this opportunity to say: welcome to the family.

Professor Richard A. Williams OBE
Principal and Vice-Chancellor

A3. Globally Connected Learning

Our University teaching model is Globally Connected Learning, an approach that blends on-campus teaching with online activities, support and resources to create a rich student learning experience. Throughout your studies at Heriot Watt you will be able to learn, interact and collaborate with your classmates and your academic teaching team through a range of inspiring activities and learning events.

If you are enrolled on our campus-based programmes you will be able to take full advantage of all that campus life offers. Our campuses are at the heart of our community and campus-based learning is core to the Heriot-Watt student learning experience. You will be expected to attend campus-based teaching and undertake any assessments or examinations scheduled on campus.

The specific balance of learning on individual courses will depend on the subjects you are studying and the activities and resources your course team have designed to help you engage effectively with your studies.

Our approach is founded on a commitment to student partnership. That means you are encouraged to take responsibility for your own learning, to actively participate in the opportunities open to you. Your course team will support you to plan your time carefully to make the most of Globally Connected Learning.

We recognise that your studies will have been significantly disrupted in recent years as a result of the Covid pandemic. You can discuss any issues around your learning or your wellbeing with your personal tutor (see below) and with the University’s support services (see below).
A4. **Personal Tutors**

Every student has a member of academic staff allocated to them as a personal tutor who will be a key source of advice, guidance and support during your time at Heriot-Watt. Your personal tutor is your first point of contact if you need advice on any issue, both academic and non-academic, and can refer you to other support services where relevant for non-academic matters. Personal tutors provide a clear point of contact for you throughout your degree.

While social distancing is in operation, or if you are off campus, you can still arrange to meet your personal tutor remotely and contact them by email.

More details about personal tutoring can be found [here](#).

A5. **Key Staff Contact Details**

The Year Coordinators are responsible for ensuring the overall smooth functioning of each year. The Year Coordinators will take an overview of all the material taught to the year, should be aware of any difficulties which are occurring in any of the courses, will ensure that continuous assessment is carried out in an appropriate manner, and will deal with the collation of examination marks. They also deal with progression decisions and transfer requests.

<table>
<thead>
<tr>
<th>Year of study</th>
<th>Year Coordinator</th>
<th>Room</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dr Pamela Docherty</td>
<td>CM.T08</td>
<td><a href="mailto:p.docherty@hw.ac.uk">p.docherty@hw.ac.uk</a></td>
</tr>
<tr>
<td>2</td>
<td>Dr Thomas Wong</td>
<td>CM.S04</td>
<td><a href="mailto:thomas.wong@hw.ac.uk">thomas.wong@hw.ac.uk</a></td>
</tr>
<tr>
<td>3</td>
<td>Dr Alex Martin</td>
<td>CM.S09</td>
<td><a href="mailto:Alexandre.Martin@hw.ac.uk">Alexandre.Martin@hw.ac.uk</a></td>
</tr>
<tr>
<td>4 / 5</td>
<td>Dr David Bourne</td>
<td>CM.T19b</td>
<td><a href="mailto:d.bourne@hw.ac.uk">d.bourne@hw.ac.uk</a></td>
</tr>
</tbody>
</table>

We hope that all your problems, both personal and academic, can be resolved with the help of personal tutors, Year Coordinators and the staff-student committee. If, however, for any reason you find that you cannot resolve a difficulty by these means you should contact the Head of Department, Professor Robert Weston ([HoD.Maths@hw.ac.uk](mailto:HoD.Maths@hw.ac.uk)).
A6. Programme Overview

A6.1. Heriot-Watt Graduate Attributes
The University will provide you with opportunities to develop skills, qualities, and academic abilities that are summarised in the Heriot-Watt Graduate Attributes, under the headings Specialist, Professional, Creative, and Global. For more information on the Graduate Attributes, see www.hw.ac.uk/students/doc/StudentGraduateAttributes.pdf.

All your courses will contribute towards the development of these Attributes, and in your Mathematics programmes you will find the following specific features:

Specialist: all our courses are designed to impart specialist skills and knowledge across a range of areas in modern mathematics.

Professional: we have a stream of courses – Maths in Context, Problem Solving, Project Preparation, Projects – which develop the professional skills required for a wide range of careers. These include communication skills such as technical writing and presenting, IT skills, team working and career planning.

Creative: problem solving is an essential part of mathematics, and by its nature is a creative process. All our courses provide opportunities for problem solving, but this is particularly emphasised in the courses Maths in Context and Problem Solving.

Global: mathematics is a universal language. By training as a mathematician you are joining a global community of scientists who are able to communicate effectively and to work together, unhindered by any differences in language and culture.

A6.2. Other Sources of Information
Information about mathematics courses and programme structures is available from the Department's web site at www.macs.hw.ac.uk/students/maths/ and on the University-wide Virtual Learning Environment - Canvas. You can find the log-in to Canvas at https://canvas.hw.ac.uk/ and your User ID is the same as your User ID for the University Desktop Service, and your password is the same as your password for the University e-mail system. Further information concerning University regulations and policies is available from the Academic Registry (www.hw.ac.uk/services/academic-registry.htm).

A6.3. Lectures, Tutorials and Feedback
Timetabled classes for mathematics courses will include both lectures / online learning units, and tutorials / workshops / online forum sessions. A lecture consists mainly of listening, understanding and making notes of the topics being taught: an equivalent online learning unit will be a structured activity based on a reading assignment and other self-study. Tutorials, workshops and online forum sessions are interactive opportunities to get feedback on the work you are doing, to ask questions about the course material, and to get extra help with problems. Feedback is provided in a variety of ways in order to help you to reflect on and to evaluate your progress and to assist you to take steps to improve your work before the next relevant assessment. You can expect feedback on assessed coursework within three teaching weeks of the coursework submission deadline.

If you have problems after reading your notes and attempting the tutorial examples, please ask for help: all lecturers can be contacted by e-mail (see the department and course web pages for e-mail addresses).
A6.4. Teaching, Revision and Exam Weeks
The academic year is divided into 2 semesters. In Semester 1 maths courses there will normally be 12 weeks of teaching (including a Consolidation Week in week 6, and revision time at the end) followed by an exam session. In Semester 2 there will be 12 weeks of teaching (including a Consolidation Week in week 6, and revision time at the end), followed by a break and then an exam session.

Some courses will be assessed entirely by coursework, without a formal examination.

The University Registry is responsible for the scheduling and organisation of examinations: see www.hw.ac.uk/students/studies/examinations.htm

A6.5. Engagement with Courses
Please tell us as soon as possible if there are problems that affect your attendance or your ability to study online. If there are things that we or the University services can do to help then we will try our best to do that.

In order to satisfy the programme requirements in each course, a satisfactory record of engagement with the course is required, and coursework must be handed in by the stipulated dates. Students who, in the opinion of the Head of Department, fail to satisfy these requirements without good cause for any of the courses for which they are registered may, after due warning, be disallowed from presenting themselves for examination in those courses. In this case they will be deemed to have failed those courses. Please get in touch long before things get to that stage!

- Students are responsible for finding out where and when their classes, assessments, exams, resit exams etc. take place and for making the necessary arrangements to attend them.
- For students with medical and similar problems which cause them to miss classes for periods of incapacity of greater than 4 days or if the absence occurs during an examination or other assessment students should fill in an online Mitigating Circumstances form and have supporting evidence such as a medical certificate (see section 6.7 below for more details of what constitutes Mitigating Circumstances.) The Mitigating Circumstances Forms and processes can be found here https://www.hw.ac.uk/uk/students/studies/examinations/mitigating-circumstances.htm

A6.6. Communication
How We Will Contact You
When we contact you during term-time we will use your University e-mail address. In emergencies we will use e-mail or telephone. Outside term time, we may continue to use your University e-mail address, and we may write to your home address. You must keep your contact addresses up to date and check your University e-mail regularly, otherwise you might miss important information.

Your Responsibilities
It is very important that you

- read your University e-mail regularly.
• notify us immediately of any change of address. You can check and amend your personal information by logging in to Student Self Service.
• make sure your course choices are up to date. Consult your Personal Tutor or Year Coordinator for advice on course choices.

How to Contact Us
• Photographs of staff are displayed outside EM.125 with their room number.
• e-mail: This is probably the best way to contact staff. You will get e-mail addresses from Course pages and here https://www.hw.ac.uk/uk/schools/mathematical-computer-sciences/macs-staff/mathematics.htm
• Post: Department of Mathematics, School of Mathematical and Computer Sciences, Heriot-Watt University, Edinburgh, EH14 4AS.
• In Person: Staff can be contacted in their offices.

Student Communication Channels
Interim Policy and Guidance on the use of approved channels when communicating with students

To help enhance communication and collaboration with all students across our campuses, staff must use approved Heriot-Watt University internal channels / tools when sharing learning and teaching advice, information and guidance (e.g. official Heriot-Watt email and telephone, Skype for Business, MS Teams, and the Virtual Learning Environment).

Staff must not use their personal social media profile (e.g. Facebook, Instagram, Twitter etc.) or personal channels / tools for any communications with students (e.g. personal mobile use for calls, text / WhatsApp, personal emails etc.).

Heriot-Watt University’s official social media channels including Facebook, Instagram, Twitter, YouTube and LinkedIn are outward facing and used to showcase the University to external parties. Their use is aligned with our goals, for example, around enhancing research reputation and in connection with student recruitment.

A6.7. Tell us About Things That Impact on Your Studies
If you have any mitigating circumstances that could adversely affect your examination performance you should complete a Mitigating Circumstances Application form and submit it, along with appropriate supporting evidence as soon as possible. There is a University-wide rule that Examiners can take illness into account only if valid medical evidence is supplied. We are also required to ask for documentary evidence of other circumstances. We may then be able to take this into account in decisions on examinations or other assessments, to discuss various options for advancing your studies, or simply to help put you in contact with appropriate University support specialists.

The School abides by the University's Mitigating Circumstances policy. The form and the policy document can be found online at www.hw.ac.uk/students/studies/examinations/mitigating-circumstances.htm

Events or circumstances that would normally be recognised as grounds for consideration of mitigating circumstances might include:

• Illness or accident affecting the student
- Bereavement – death of a close relative or significant other
- Significant adverse personal or family circumstances
- Other significant exceptional factors that are outside the student’s control (e.g. Jury Service, although University assessments might be a reason for a student to be excused), or for which there is evidence of adverse effects.

Events or circumstances that would not normally be considered grounds for consideration of mitigating circumstances include:

- Holidays or other events that were planned or could reasonably have been expected
- Assessments that are scheduled close together or on the same day, or that clash due to incorrect registration by the student
- Misreading the timetable for examinations or otherwise misunderstanding the requirements for assessment
- Inadequate planning or time management
- Last-minute or careless travel arrangements
- Consequences of paid employment
- Exam stress or panic attacks not supported by medical evidence

Mitigating Circumstances information is handled in confidence, so do not be afraid to tell us something. Notification should be before the examination session concerned, and certainly no later than the Examiners’ Meeting (usually at the end of the semester, or mid-August in the case of resits). It is particularly important for final-year students to present all information to the department before the final degree award meeting, since it takes time to reconsider a degree award decision after it is made (you have to make a formal appeal) and you will certainly miss the summer graduation.

Student Academic Representation in Mathematics is led by the School Officer (the senior Student representative) and the elected Class Representatives for each year. All the School Officers attend the School Learning & Teaching Committee, and the School Officer for Mathematics and the Class Representatives attend the Staff-Student Liaison Committee (SSLC).

The SSLC is a forum for notification and discussion of various issues affecting undergraduate courses and provides valuable feedback to the Department. Typical issues raised include organisational problems encountered by students and discussion of course content and delivery. The committee meets once each semester. Details of the discussion at this Committee are posted on the Virtual Learning Environment. Feedback is sought from students via Student-Staff Liaison Committees and various surveys so that we can continue to enhance the student learning experience. Please provide feedback whenever it is sought.

A6.8. Computing Facilities

All students are issued with accounts on the University Desktop Service network. E-mail, word-processing, specialist mathematics and statistics packages, and spreadsheet facilities are available on the University Desktop Service network. Details of how to access the University Desktop Service and how to use e-mail are provided to new students. Help is also available via e-mail atITHelp@hw.ac.uk
Students are expected to use the computing facilities in an appropriate and considerate way. Abuse of the facilities is subject to various disciplinary measures, ranging from a ban on access to the facilities to, in extreme and flagrant cases, expulsion from the University.

A6.9. Careers Service
The Careers Service provides high quality careers guidance, education and information services to Heriot-Watt students and graduates. It delivers these through class based sessions, a dedicated web site www.hw.ac.uk/students/careers.htm, a well-equipped information centre, drop-in query sessions, and individual appointments. In addition to providing comprehensive information on all aspects of careers, from part-time work to job seeking in the graduate labour market, they also run practical sessions that include Producing an Effective CV, Preparing for Interview and Practice Aptitude Tests.

Lindsay Wilson is the Careers Adviser with responsibility for students in Mathematics. You can find the Careers Service in the Hugh Nisbet Building, and can be contacted at careers@hw.ac.uk and at 0131 451 3396.

Career planning is a major part of the third year course F19GB Project Preparation and Skills which will help prepare you for possible summer work placements and other future employment. The Careers Advisory Service will also make presentations to 4th and 5th year students.

A6.10. Student Learning Code of Practice
What Staff Can Expect of Students
Most importantly, we expect you to take charge of your own learning. This is your degree; to get the most out of your time at the University you need to be independent, self-motivated and proactive in your studies. We understand that you may have other demands on your time, but your studies should come first. In addition, we expect:

- Preparation for classes as specified by your lecturers, including studying lecture notes, working on tutorial questions and participating in course activities. To do well in your studies you will need to undertake a significant amount of private study in addition to attending your timetabled classes
- Full engagement and attendance on time for lectures, laboratories, seminars and tutorials: during the semester it is your responsibility to be available to attend classes and, in particular, class tests
- Basic organisational skills, including coming to classes with pen and paper ready to take notes or with equipment for electronic note-taking, and using a calendar so that you don't forget deadlines and appointments
- Attention, courtesy and participation during classes; this includes asking and answering questions in lectures and tutorials
- Respecting deadlines for any assignments
- Taking responsibility for your work, whether completed individually or as part of a group
- Attendance at any scheduled meetings with a member of staff. If you can't make a scheduled meeting, please notify the member of staff in advance rather than just not attending
- Checking your University email, providing timely responses to emails from members of staff
- Provision of feedback on your courses and programme
- Commitment to your learning and a professional approach to your academic work
• Self-reflection on progress and willingness to learn from feedback on tutorial work, projects, exams, and trying to improve your work based on that feedback
• Determination and persistence; some topics and problems will be challenging and we expect you to make a sustained effort to master difficult topics. Lecturers are there to help if you need it
• To keep yourself informed about new and interesting developments in your discipline (beyond what is covered in your courses)
• Full referencing of all work
• Adherence with regulations and requirements, including health and safety
• Politeness and respect for all members of the Heriot-Watt University community and for the facilities/services provided. This includes switching off your phones and other social media during classes

What Students Can Expect of Staff
Teaching is one of the most important duties for members of staff. Although members of academic staff have research and administrative duties which also require attention, we aim to provide:

• Commitment to helping you learn, with support, encouragement and technical back-up to help you develop your skills
• Research-informed teaching and high quality delivery of learning materials in accordance with the syllabus
• Advice and support on course content at tutorials, laboratories and through pre-arranged meetings
• Appropriate supervision of project/dissertation work
• Clear information and guidance on assessment requirements
• Timely oral and written feedback
• Timely provision of marks/grades for coursework and exams
• A prompt response from your personal tutor
• A timely response to general email questions
• Guidance on specific regulations and requirements including those related to health and safety
• Politeness and respect

A6.11. Cheating and Plagiarism
Cheating in examinations, and plagiarism (i.e. the presentation of another person's ideas or work as one's own) are very serious offences and are dealt with severely. They carry a range of penalties up to and including expulsion from the University. Students are responsible for familiarising themselves with the University policy on these matters: see www.hw.ac.uk/students/studies/examinations/plagiarism.htm

Guidance on referencing and the use of sources is available from your subject librarian and the Effective Learning Service (www.hw.ac.uk/is/skills-development/study-support.htm). Remember that plagiarism is an academic offence even if it is unintentional; you need to take care to avoid it.

A6.12. Courses, Programmes, and Assessment
Students normally study 4 courses per semester giving a total of 8 courses per year. The assessment may be by formal examination, or by continuous assessment, or by a mixture of the
two methods. The Heriot-Watt course scheme is compliant with the Scottish Credit and Qualifications Framework (SCQF). Each Heriot-Watt course is regarded as requiring 150 hours of student effort and is worth 15 SCQF credits. Thus in each year of full-time study a student should accumulate 120 credits. Our 1st Year courses are usually at SCQF Level 7, 2nd year at level 8, 3rd year at level 9, 4th year at level 10, and 5th year at level 11.

A6.13. Transfer between Programmes and Courses
If you want to change any of the courses for which you are registered, you should consult either your Personal Tutor or your Year Coordinator. This can be done within the first 2 weeks of each semester. Check any changes are allowed for your programme of study by referring to https://www.macs.hw.ac.uk/students/maths/

Transfer between our various degree programmes is possible under certain circumstances; for example, at the beginning of the second and third years, students studying one of the joint degrees may switch to the BSc in Mathematics. At some stages in your programme it might also be possible to study a broader range of courses by transferring to the BSc in Mathematical Studies.

A6.14 Heriot Watt Assessment and Progression Systems (HAPS)
The University operates the Heriot Watt Assessment and Progression System (HAPS) which specifies minimum progression requirements. Schools have the option to apply progression requirements above the minimum University requirement, which are approved by the Studies Committees. Progression information is given for each degree separately in the Programme Structures and Progression Rules section available from www.macs.hw.ac.uk/students/maths/.

A brief summary of the progression rules are also given in the information about the various years later in this guide but while we try to make this summary as accurate as possible, you should note that the detailed University and Department regulations take precedence over what is given in this guide.

In HAPS your exam result for each subject is presented in the form of a mark and a letter grade (A - F) where

A = approximately 70% - 100%
B = approximately 60% - 70%
C = approximately 50% - 60%
D = approximately 40% - 50%

An E grade will indicate a mark of less than 40% and is awarded when you have done enough to be given credit points in the subject but you have not done enough to be allowed to study the same topic at a higher level. Every course is worth 15 credits and you will get 15 credits for each subject in which you get grade E or above. An F indicates a fail for which no credit points are given towards your degree.

If you obtain credit in all eight courses in a year of study you earn 120 credits. In order to obtain an Honours degree 480 credits are required (and 360 credits are required for an Ordinary Degree). This means that in order to graduate you must normally obtain 120 credits from every year that you study. Final Examination Boards are allowed to award a student discretionary
credits for up to two courses, within a complete programme, in which a student has failed to obtain credits, provided that all relevant examinations in the courses have been attempted. Hence you are allowed to fail in no more than two courses in your entire University career. In particular you will not be allowed to proceed to the next year of your programme if at any point you have failed in more than two courses.

However, since an E grade does not allow you to carry on studying a topic at a higher level, for most courses you will have to get a grade D or above in order to progress. If you hope to flourish in the later years of an Honours programme you should be aiming for your best possible performance in all your courses. The much sought-after upper second and first class degrees equate to A's and B's rather than D's and E's.

A6.15. Resitting Courses

If you fail courses (or do not obtain a sufficient number of D passes) in years 1 and 2, then you will be required to resit them. In year 3 if you do not obtain enough credits to progress to the final year of Honours or to graduate with an Ordinary degree then you will have to resit for credit. **Resits in Year 3 exams do not count towards the classification of your Honours degree.** In this case the resit allows you to gain the credits required for the award of a degree, but the original exam mark is used to determine the degree classification.

You are normally entitled to one resit attempt for Year 1-3 exams. Students resitting an exam will be subject to an administration charge levied by the University Registry. The resit diet is usually in August (it is your responsibility to check the details on the Registry web pages). Should you be required to resit anything, you must be available to do so. **Do not book holidays or take on other commitments during the resit diet.** All resit examinations will be held on the campus on which you took the course (so for Mathematics students this will be at Edinburgh). Further information on this policy can be found at [www.hw.ac.uk/students/studies/examinations/re-assessment.htm](http://www.hw.ac.uk/students/studies/examinations/re-assessment.htm).

A6.16. Late Submission of Coursework

Courses may require the submission of coursework that will contribute to your final grade for the course. The University recognises that, on occasion, students may be unable to submit coursework and dissertations by the submission date. There is a University-wide policy that applies to the late submission of coursework.

- No individual extensions are permitted under any circumstances (although course leaders may decide to give an extension to an entire class);
- 30% deduction from the mark awarded for any late submission (up to a maximum of five working days);

In the case where you submit coursework late and you have valid mitigating circumstances, the mitigating circumstances policy will apply and appropriate mitigation will be applied. Formative feedback will be provided on all coursework submitted up to five working days late. Any coursework submitted after five days of the set submission date shall be automatically awarded a zero grade with no formative feedback provided. The full policy can be found here:

Feedback on assessment will be provided for mathematics courses.

For continuously assessed work, your work will be returned, with feedback, within 3 working weeks of the assessment deadline.

For examinations, we will provide a copy of the examination paper and detailed solutions after the examination diet. Access to examination papers is provided for the purpose of gaining feedback from the examination process and so students can understand their own strengths and areas for improvement. However, it is not an opportunity to question the marking process or the allocation of marks, nor to debate the academic judgement of the markers in the award of marks. If after students receive their marks they detect an irregularity in the marking (e.g. an arithmetical omission or error), then students can request to inspect their exam script by emailing the course leader and if appropriate indicate the section where they feel the irregularity has occurred and request that the course leader check the marking for this section.
A7. Programme Study and Delivery

A7.1. Information about First Year

Year Coordinator: Dr P. Docherty, Room CM.T08

Each semester you study four courses (making a total of 8 in the year). For most programmes, two in each semester will be on mathematics, one on statistics, and the fourth may be in a topic outside of mathematics. For Mathematics with ... degrees, the fourth course will usually be a mandatory course in the subsidiary subject. Some programmes allow students to choose from a number of elective courses. The first year Mathematics courses are listed below. Detailed programme structures may be found at www.macs.hw.ac.uk/students/maths/ (where a list of optional and elective courses can be found on the RHS menu).

<table>
<thead>
<tr>
<th>Year 1 Semester 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>F17CA</td>
<td>Calculus A</td>
</tr>
<tr>
<td>F17CC</td>
<td>Introduction to University Mathematics</td>
</tr>
<tr>
<td>F77SA</td>
<td>Introduction to Statistical Science A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 1 Semester 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>F17CD</td>
<td>Calculus B</td>
</tr>
<tr>
<td>F17GA</td>
<td>Problem Solving</td>
</tr>
<tr>
<td>F77SB</td>
<td>Introduction to Statistical Science B</td>
</tr>
</tbody>
</table>

The following courses are optional and are not available on all programmes.

<table>
<thead>
<tr>
<th>Year 2 Semester 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>F17GC</td>
<td>Mathematics in Context</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 2 Semester 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>F17SC</td>
<td>Discrete Mathematics</td>
</tr>
</tbody>
</table>

Progression to Second Year

Decisions on progression are made by the Progression Board. The information below is given for guidance.

- Students normally require 120 credits including 6 passes at grade D or better to proceed to Second Year.
- For most programmes a grade D or better is required in Introduction to University Mathematics, Calculus A, Calculus B, and Problem Solving

Exceptions and additions to these general Progression Requirements for certain courses are given below:
- Students on the MMath will additionally require an average mark of at least 60% at the first attempt in the 6 mandatory courses and a minimum of grade D in the optional/elective courses.

- Students on BSc Mathematics with Physics will additionally require a grade D or better in B27MW Mechanics, Fields & Forces and B27FF Waves and Matter.

- Students on BSc Mathematics with Computer Science will require a grade D or better in Introduction to University Mathematics, Calculus A, Calculus B and additionally a grade D or better in F27SA Software Development 1, F27SB Software Development 2.

- Students on BSc Mathematics with Languages will additionally require a grade D or better in the Language courses in each semester.

- Students on BSc Mathematics with Statistics will additionally require a grade D or better in F77SA Introduction to Statistical Science A and F77SB Introduction to Statistical Science B.

- Students on BSc Mathematics with Finance will additionally require a grade D or better in C37FF Finance and Financial Reporting.

- Students on the Mathematical, Statistical and Actuarial Sciences degree normally require 8 passes at grade D or better in order to proceed to the second year.

- If a student has not obtained at least an E grade in any course, it is essential that the student takes the resit assessment in that course. University Regulations allow Examination Boards to award any student up to two Discretionary Credits in the course of their programme, but only if the student has attempted the resit examinations concerned. However Discretionary Credits are not allocated for progression.

- Students who have not met the Progression Requirements will receive advice from the First Year Coordinator.
A7.2. Information about Second Year

Year Coordinator: Dr T. Wong, Room CM S.04

Each semester you study four courses (making a total of 8 in the year). The choice of courses depends on the degree you are taking, as in first year. The second year Mathematics courses are listed below. Details of courses, including their syllabus, their learning outcomes, and details of their method of assessment are given at www.macs.hw.ac.uk/students/maths/

### Year 2 Semester 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>F18CD</td>
<td>Multivariable Calculus and Real Analysis A</td>
</tr>
<tr>
<td>F18CF</td>
<td>Linear Algebra</td>
</tr>
<tr>
<td>F18AA</td>
<td>Applied Mathematics A</td>
</tr>
</tbody>
</table>

### Year 2 Semester 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>F18CE</td>
<td>Multivariable Calculus and Real Analysis B</td>
</tr>
<tr>
<td>F18NA</td>
<td>Numerical Analysis A</td>
</tr>
<tr>
<td>F18PA</td>
<td>Pure Mathematics A</td>
</tr>
</tbody>
</table>

The following courses are optional and are not available on all programmes.

### Year 2 Semester 1

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>F17LP</td>
<td>Logic and Proof</td>
</tr>
<tr>
<td>F78PA</td>
<td>Probability and Statistics A</td>
</tr>
</tbody>
</table>

### Year 2 Semester 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>F78SC</td>
<td>Statistics for Science</td>
</tr>
<tr>
<td>F78PB</td>
<td>Probability and Statistics B (you must have taken F78PA)</td>
</tr>
<tr>
<td>C37FF</td>
<td>Finance and Financial Reporting</td>
</tr>
</tbody>
</table>

It is important that you take optional courses seriously. Failure in them will lead to resit examinations in August/September, which must be passed before you are allowed into Honours Mathematics or MMath in Year 3.

**Progression to Year 3**

Decisions on progression are made by the Progression Board. The information below is given for guidance.

- Students normally require a total of 240 credits including 6 passes in Second Year at grade D or better

- For most programmes a grade D or better is required in each of Linear Algebra, Multivariable Calculus and Real Analysis A, and Multivariable Calculus and Real Analysis B.
Exceptions and additions to these general Progression Requirements for certain courses are given below:

- Students on MMath normally require a total of 240 credits and an average mark of at least 60% at the first attempt in the 6 mandatory courses and a minimum of grade D in the optional courses.

- Students on BSc Mathematics with Physics will additionally require a grade D or better in B28PO Photonics and Optics and B28TP Thermal Physics and Properties of Matter.

- Students on BSc Mathematics with Computer Science will additionally require a grade D or better in F28SG Intro to Data Structures and Algorithms, F28PL Programming Languages, and F28SD Software Design.

- Students on BSc Mathematics with Languages a minimum of Grade B in at least 6 courses including Multivariable Calculus and Real Analysis A, Multivariable Calculus and Real Analysis B, Linear Algebra, and all language courses and an overall average mark of at least 70% in all mathematics courses.

- Students on BSc Mathematics with Statistics will additionally require a grade D or better in F78PA Probability and Statistics A and F78PB Probability and Statistics B.

- Students on BSc Mathematics with Finance will additionally require a grade D or better in C38FM Financial Markets Theory.

- Students on the Mathematical, Statistical and Actuarial Sciences degree normally require 8 passes at D or better in order to proceed to the third year.

- Students on BSc Mathematical Studies normally require a total of 240 credits, a minimum of 90 credits at SCQF level 8 and an average mark over their MACS modules of at least 40% to proceed to third year Honours. In addition students must have the pre-requisites for at least six SCQF level 9 or level 10 modules available in the degree.

- If a student has not obtained at least an E grade in any course, it is essential that the student takes the resit assessment in that course. University Regulations allow Examination Boards to award any student up to two Discretionary Credits in the course of their programme, but only if the student has attempted the resit examinations concerned. However Discretionary Credits are not allocated for progression.

- Students who have not met the Progression Requirements will receive advice from the Second Year Coordinator.
A7.3. Information about Third Year

Year Coordinator: Dr A Martin, Room CM.S09

Each semester you study four courses (making a total of 8 in the year). The choice of courses depends on the degree you are taking as in the previous two years. Third year Mathematics courses are listed below. Details of courses, including the syllabus, the learning outcomes, and details of the method of assessment are given at [www.macs.hw.ac.uk/students/maths/](http://www.macs.hw.ac.uk/students/maths/).

Results from examinations in courses at SCQF level 9 or 10 taken during the year count toward the classification of the final Honours or MMath degree.

<table>
<thead>
<tr>
<th>Year 3 Semester 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>F19GB</td>
<td>Project Preparation</td>
</tr>
<tr>
<td>F19MV</td>
<td>Vector Analysis</td>
</tr>
<tr>
<td>F19PB</td>
<td>Pure Mathematics B</td>
</tr>
<tr>
<td>F19PL</td>
<td>Abstract Algebra</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 3 Semester 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>F19AB</td>
<td>Applied Mathematics B</td>
</tr>
<tr>
<td>F19MC</td>
<td>Complex Analysis</td>
</tr>
<tr>
<td>F19MO</td>
<td>Ordinary Differential Equations</td>
</tr>
<tr>
<td>F19NB</td>
<td>Numerical Analysis B</td>
</tr>
</tbody>
</table>

Teaching, Assessment and Exams

- We review progress of honours degree students after the first semester, and may advise some students to change to the ordinary degree course at that point. However, failing a subject in December does not necessarily mean that you cannot get an Honours degree.

- **All the level 9 or 10 courses taken during the third year count towards the degree assessment for BSc Honours degrees with a weighting of 40% on third year results and 60% on fourth year.** Students on the Mathematics with a European Language degree spend their third year studying abroad, and so there are special arrangements for them. There are also special arrangements for students on the Master of Mathematics degree and the Mathematical Studies degree. More details on this are given in Sections 10.7 and 10.8 in this guide.

Graduation with an Ordinary degree (apart from Mathematical Studies)

- The final decisions on graduation are made by the Progression/Award Boards. The information below is given for guidance only and should not be regarded as binding.
• Students are eligible for an Ordinary degree if they obtain at least 360 credits. University Regulations allow Examination Boards to award any student up to two Discretionary Credits in the course of their programme but only if the student has attempted the resit examinations concerned.

• Students who reach the end of third year without 360 credits may be able to resit courses to gain enough credits for an Ordinary degree.

• Students registered for an Honours degree may choose to leave with an Ordinary degree at the end of third year if they have obtained sufficiently many credits.

**Graduation with an Ordinary degree (Mathematical Studies)**

• The final decisions on graduation are made by the Progression/Award Boards. The information below is given for guidance only and should not be regarded as binding.

• Students must have gained a total of at least 360 credits (including, where appropriate, up to 30 Discretionary Credits).

• Students must have gained a minimum of 60 credits at SCQF level 9

• Students must have gained a maximum of 300 credits from SCQF level 7 and SCQF level 8 (not more than 210 credits at SCQF level 7)

• Students must have the majority of their MACS courses with codes which start with F1 or F7.

**Progression to Year 4 (apart from Mathematical Studies)**

• The final decisions on progression are made by the Progression Boards. The information below is given for guidance only.

• You will be allowed to proceed to the final year of the Honours course if
  – you satisfy the prerequisites for all the courses you will study in year 4
  – you have accumulated at least 360 credits (and so qualify for an Ordinary degree) and
    - have an average mark on all qualifying courses of at least 40% and,
    - if you take F19GB Project Preparation, an average mark of at least 40% in the other seven qualifying courses.

• MMath students will be allowed to proceed to the 4th year of the MMath if
  – you satisfy the prerequisites for all the courses you will study in year 4
  – and you have accumulated 360 credits
  – and your overall average mark is 60% or better.

If you have a sufficiently good average overall but have failed some courses and have an insufficient number of credits, or you do not satisfy the prerequisites for all the courses you will study in year 4, you may be asked to resit examinations to gain more credits or obtain the prerequisites before you can progress. **In this case the mark scored in your first attempt at the exam will be used in calculating your overall average for classifying Honours.**
Progression to Year 4 (Mathematical Studies)

- The final decisions on progression are made by the Progression Boards. The information below is given for guidance only and should not be regarded as binding.

- To progress from Stage 3 to Stage 4 students must have gained a minimum of 90 credits at SCQF level 9 or above and must have the pre-requisites to enable them to have taken at least six qualifying courses which are at SCQF level 9 and at least six qualifying courses which are SCQF level 10 or 11 by the end of Stage 4.

- In order to progress from Stage 3 to Stage 4, students must normally have an average mark of 40% or better in their qualifying courses and have obtained 360 credits.

If you have a sufficiently good average overall but have failed some courses and have an insufficient number of credits or you do not satisfy the prerequisites for all the courses you will study in year 4, you may be asked to resit examinations to gain more credits or obtain the prerequisites before you can progress. In this case the mark scored in your first attempt at the exam will be used in calculating your overall average for classifying Honours.
A.7.4. Information about Fourth Year

Year Coordinator: Dr D. Bourne, Room CMT.19b.

Each semester you study four courses (making a total of 8 in the year). The choice of courses depends on the degree you are taking. Most students must take the Mathematics Project Dissertation (F10GP) in Semester 2. The fourth year Mathematics courses are listed below. Details of courses, including the syllabus, the learning outcomes, and details of the method of assessment are given at www.macs.hw.ac.uk/students/maths/

Results from examinations in courses at SCQF level 9 or 10 taken during the year count toward the classification of the final Honours or MMath degree.

<table>
<thead>
<tr>
<th>Year 4 Semester 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>F10AC</td>
</tr>
<tr>
<td>F10AM</td>
</tr>
<tr>
<td>F10MF</td>
</tr>
<tr>
<td>F10MM</td>
</tr>
<tr>
<td>F10NC</td>
</tr>
<tr>
<td>F10PC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year 4 Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>F10GP</td>
</tr>
<tr>
<td>F10AN</td>
</tr>
<tr>
<td>F10PG</td>
</tr>
<tr>
<td>F10MP</td>
</tr>
<tr>
<td>F10ND</td>
</tr>
<tr>
<td>F10PD</td>
</tr>
</tbody>
</table>

Board of Examiners
The Board of Examiners is chaired by the Senior Programme Director, and includes both External Examiners and the lecturers who taught the courses. The External Examiners preview and approve the methods of assessment, contribute to decision making at the Board, and so ensure the academic standards and fairness of our degree awards.

Classification of Honours Degrees (other than Mathematical Studies)

- For the BSc in Mathematics (F111), the Honours degree assessment is based on examinations held in both of the third and fourth years, weighted 60% on the fourth year results and 40% on the third year. For BSc degrees in mathematics with an external subject, the weighting may be slightly different and you should consult the appropriate programme guide at www.macs.hw.ac.uk/students/maths/ or the Programme Director for details.
• The assessment for the degree of Mathematics with a European Language is based on courses taken in the fourth year together with an oral examination in your European Language which is taken in October of year 4. The courses taken in fourth year are equally weighted, irrespective of whether they are level 9 or level 10. The oral examination counts 20% towards the final degree classification.

• The table below shows the average marks per paper used by the examiners as a starting point in the degree classification process.

<table>
<thead>
<tr>
<th>Average Mark</th>
<th>Degree Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥70%</td>
<td>1</td>
</tr>
<tr>
<td>60-69%</td>
<td>2.1</td>
</tr>
<tr>
<td>50-59%</td>
<td>2.2</td>
</tr>
<tr>
<td>40-49%</td>
<td>3</td>
</tr>
<tr>
<td>Below 40%</td>
<td>Ordinary</td>
</tr>
</tbody>
</table>

• There is no quota system on the number of degrees of different classes awarded. It is not impossible (although highly unlikely) for everyone to get a 1st class degree, and similarly for everyone to get an Ordinary degree.

• MMath students will get a provisional Honours degree classification at the end of 4th year (using the rules above).

• MMath students will be allowed to proceed to the final (5th) year of the MMath programme if
  - you satisfy the prerequisites for all the courses you will study in year 5
  - and you have accumulated at least 480 credits with your average mark at 60% or better.

Classification of Honours Degrees (Mathematical Studies)

• The Board of Examiners is the same as that for the other mathematics honours degree and operates under the same conditions.

• A student must have gained a total of at least 480 credits

• A student must have gained a minimum of 90 credits at SCQF level 10 and a minimum of 90 credits at SCQF level 9

• A student must have gained a maximum of 300 credits from SCQF level 7 and SCQF level 8 (not more than 210 credits at SCQF level 7)

• A student must have gained a minimum of 30 credits from Project courses F19GB1+F10GP2 (Mathematics project) OR F79MA1+F79MB2 (Statistics project).

• The class of Honours shall be determined by performance in the 6 best MACS Stage 3 courses and the 6 best MACS Stage 4 courses taken, these are termed "the qualifying courses". The classification shall be based on 40% of the average mark of the Stage 3 qualifying courses and 60% of the average mark of the Stage 4 qualifying courses.

• A student must have the majority of their MACS courses with codes which start with F1 or F7. A student who satisfies all the above criteria for the award of an honours degree but fails to have the majority of their MACS courses with codes starting with F1 or F7 shall be eligible to be considered for the degree of BSc in Computing Studies.
A7.5. Information about Fifth Year (MMath degree only)

Year Coordinator: Dr D. Bourne, Room CMT.19b.

In the 5th year we offer a choice of courses. In semester 1 students must take the Mathematics Project Dissertation Part II (F11GS) and choose three other courses. In Semester 2 you choose 4 courses. Fifth year Mathematics courses are listed below. Details of courses, including the syllabus, the learning outcomes, and details of the method of assessment are given at www.macs.hw.ac.uk/students/maths/

<table>
<thead>
<tr>
<th>Year 5 MMath courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>F11AE</td>
</tr>
<tr>
<td>F11AM*</td>
</tr>
<tr>
<td>F11MF*</td>
</tr>
<tr>
<td>F11MM*</td>
</tr>
<tr>
<td>F11NC*</td>
</tr>
<tr>
<td>F11PE</td>
</tr>
<tr>
<td>F11MT</td>
</tr>
<tr>
<td>F11MS</td>
</tr>
<tr>
<td>F11GS</td>
</tr>
<tr>
<td>F11AN*</td>
</tr>
<tr>
<td>F11PG*</td>
</tr>
<tr>
<td>F11MP*</td>
</tr>
<tr>
<td>F11ND*</td>
</tr>
<tr>
<td>F11PF</td>
</tr>
<tr>
<td>F11SS</td>
</tr>
<tr>
<td>F11DA</td>
</tr>
</tbody>
</table>

You cannot choose a course marked with a * in the above list if you have already taken its 4th year counterpart.

Classification of MMath Degree
The classification is based on the assessments held in years 3, 4 and 5, weighted 25%, 37.5% and 37.5% respectively. The Board of Examiners is the same as that for the other mathematics honours degrees and operates under the same conditions. MMath degrees are also classified like Honours degrees. The table below shows the average marks used by the examiners as a starting point in the degree classification process.

<table>
<thead>
<tr>
<th>Average Mark</th>
<th>Degree Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥70%</td>
<td>1</td>
</tr>
<tr>
<td>60-69%</td>
<td>2.1</td>
</tr>
<tr>
<td>50-59%</td>
<td>2.2</td>
</tr>
<tr>
<td>40-49%</td>
<td>3</td>
</tr>
<tr>
<td>Below 40%</td>
<td>BSc Honours Degree earned by the end of year 4</td>
</tr>
</tbody>
</table>
PART B: UNIVERSITY INFORMATION

B1. Programme and Course Content

The content of our programmes and courses is reviewed annually to make sure it is up-to-date and relevant. Individual courses are occasionally updated or withdrawn. This is in response to discoveries through our world-leading research; funding changes; professional accreditation requirements; student or employer feedback; outcomes of reviews; and variations in staff or student numbers. In the event of changes the University will consult and inform students in good time and will take reasonable steps to minimise disruption.

B2. Our Values

At Heriot-Watt, we have an established set of values that help up to nurture innovation and leadership and show our commitment to continuous development in all our activities. They are:

- **Belong** to a diverse, inclusive and international community working together across boundaries and cultures
- **Inspire** curiosity to learn and find solutions that transform lives
- **Collaborate** by working in partnership to shape the future whilst taking responsibility for our own actions
- **Celebrate** excellence and take pride in the achievements of our students, staff and alumni

Find out more about the [Heriot-Watt Values](#) and what they mean to us.

B3. Student Partnership Agreement

Heriot Watt University and the Heriot-Watt Student Union (UK), Heriot-Watt Student Association (Malaysia) and Heriot-Watt Student Council (Dubai) work in partnership to develop a Student Partnership Agreement (SPA) each year. The Agreement identifies the main, agreed priorities for working in partnership each academic year and outlines an associated action plan.

Heriot-Watt University has a long and proud tradition of student engagement in institutional governance and decision-making and the Student Partnership Agreement sets out our ambition to continue to work in partnership across all of our campus locations, with the aim of increasing engagement with the institution, enhancing the student experience and engendering a sense of belonging to the University community.

The Student Partnership Agreement is available [here](#).

B4. University Regulations

Heriot-Watt has a detailed set of rules that govern how the University operates, these are the University’s [Ordinances and Regulations](#). Ordinances are set by the Court, which is the University’s governing body, outline how the University is governed. University regulations provide the framework for the University’s academic work and the education of our students and they define the policies, procedures and support available to our students.
B5. Your Student Portal

The Student Portal brings together your services and relevant information in one place. Below is a summary of the services available to you via the portal:

- **Office 365 suite:** through single sign-on, all of your Office 365 services will be accessible through the Portal.
- **Library:** whether you want to search for books or view your loans & reservations, the Portal allows you to do this on your phone or desktop.
- **Canvas:** access your courses here, including announcements, tasks and assignments.
- **Student Information:** all university-level regulations and policies relating to your studies can be found on the Portal.
- **Campus and School News:** the Portal enables the University to promote events and experiences which will help you develop your skills.
- **Personalised:** You can hide, add and move tiles on your dashboard.
- **AskHWU:** You can find everything you need to help you navigate your time at HWU through the new AskHWU search tile. Ask questions of the University and enquire directly with members of staff to get information about ID cards, student finance, confirmation of studies letters, exams, enrolment, Careers, Wellbeing Services and much more.
- **Appointments:** book appointments with a range of different services (Student Wellbeing Services, Careers, Finance etc.) through your student portal.

You can access your student portal [here](#).

B6. Your Virtual Learning Environment

Heriot-Watt’s Virtual Learning Environment (VLE) is called [Canvas](#). It is a vital learning and communication tool for you and your lecturers, so make sure you log in and check Canvas every day. For further support see the [Canvas Student Guides](#).

B7. A to Z Guide: Essential Student Information

This [A to Z guide](#) covers essential information about the support and resources available to you as a Heriot-Watt student.