

Imperial College London

Faculty of Natural Sciences
Department of Mathematics

UG Programmes

Student Handbook

2022-23

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Welcome to the College

Congratulations on joining Imperial College London, the only university in the UK to focus exclusively on science, medicine, engineering and business.

From Fleming's discovery of Penicillin to Gabor's invention of holography, Imperial has been changing the world for well over 100 years.

You're now very much a part of this community of discovery and we hope you will take this opportunity to make your own unique contribution. At Imperial, we expect all members of our community, whether students or staff, to share and demonstrate our values of respect, integrity, collaboration, innovation and excellence in all we do and strive to achieve.



We understand that this is a challenging time for our student community due to the impact of coronavirus and we are committed to providing you with the very best academic resources to help you reach your true potential. Information on teaching and learning, services and facilities to support the wider student experience during the Covid-19 pandemic can be found on the College's webpages, alongside local information provided by your Department.

We also provide a dedicated support network and a range of specialist support services to make sure you have access to the appropriate help, whether that's further training in an academic skill like note taking or simply having someone to talk to.

We actively encourage you to seek out help when you need it and try to maintain a healthy work-life balance. Our choice of over 360 clubs, societies and projects is one of the largest of any UK university, making it easy to do something different with your downtime. Access to the gym and other sporting facilities will be dependent on government guidance. We are working to ensure that you have access to a variety of resources online to support your health and wellbeing if there are restrictions.

Our Principles

In 2012 the College and Imperial College Union agreed 'Our Principles' a series of commitments made between students and the College. The Principles are reviewed annually by the Quality Assurance and Enhancement Committee and changes recommended for Senate approval.

Imperial will provide through its staff:

- A world class education embedded in a research environment
- Advice, guidance and support
- The opportunity for students to contribute to the evaluation and development of programmes and services

Imperial will provide students with:

- Clear programme information and assessment criteria
- Clear and fair academic regulations, policies and procedures
- Details of full programme costs and financial support
- An appropriate and inclusive framework for study, learning and research

Imperial students should:

- Take responsibility for managing their own learning
- Engage with the College to review and enhance provision
- Respect, and contribute to, the Imperial community

The Imperial College Students' Union will:

- Support all students through the provision of independent academic and welfare assistance
- Encourage student participation in all aspects of the College
- Provide a range of clubs, societies, student-led projects and social activities throughout the year
- Represent the interests of students at local, national and international level

 www.imperial.ac.uk/students/our-principles

Introduction from the President of Imperial College Union



Welcome to Imperial!

Many congratulations on making it here. Imperial is one of the world's most prestigious universities and studying here will give you opportunities you wouldn't have elsewhere. This is a well-funded institution, with extremely capable students and superb research facilities. Take advantage of both - working with others and seeking out opportunities beyond your course is what makes a degree here worthwhile.

Imperial has plenty to offer outside your degree too, giving you the chance to try something new. London is a multi-faceted and diverse city where almost anything you could want is only a walk, bike, or tube ride away. We're right next to some incredible museums, parks, and venues. We also have hundreds of student-led societies covering a wide range of activities, and a selection of venues running fun events throughout the year.

These societies and venues are administered by your student union - the Imperial College Union. We also support networks of departmental student representatives, campaigns, and volunteering opportunities. The Union is led by students, for students. The four deputy presidents and I are all democratically elected students who have taken a year out to work full-time on improving your experience at Imperial. We also have a large team of permanent staff behind us, running the many functions of the Union such as supporting clubs & societies and training student reps. The Union has been working hard to protect your interests and improve Imperial's offering to students post-pandemic, and we will continue to do so over the course of the coming academic year.

The Union also runs the Advice Centre, where guidance and support can be provided on issues such as life in halls, complaints, and academic appeals. This is a free and confidential service that is independent from the university. You can access this by emailing advice@imperial.ac.uk.

University is a new stage of life. You're in a place where you have a good degree of control over what you do. Take advantage of this: consider running in our Autumn Elections, be sure to join a society or two, and above all, make your voice heard. If there's something you want to see changed, we can work together to make it happen.

No matter what problems you have or opportunities you're looking for, we're here to help. Our office is on Level 2 in Beit Quadrangle, and you can check out our website for more information.

I hope you have a fantastic year!

Hayley Wong

Imperial College Union President 2022-23



union.president@imperial.ac.uk
imperialcollegeunion.org

1. Introduction to the Department

Welcome from the Director of Undergraduate Studies



Welcome to the Department of Mathematics at Imperial College London! This handbook contains general information and advice about your Mathematics programme and studying at Imperial. It is specific to your year of entry and you should refer to it during your years here. Most of what the handbook contains can be found on the Maths Central pages of Blackboard Learn, the College's Virtual Learning Environment (VLE). More details about the Second, Third and Fourth Years will be available in the individual year guides. While these year guides undergo minor changes each year, the big picture should remain as described here. With so much new information to take in, it is natural that you will have questions. The staff of the department are happy to help you - whether the question is academic, welfare-related or administrative, support is always available to you, and we encourage you to ask questions. Even if we don't know the answer, we should be able to connect you to someone who does.

The Department has a very strong reputation, both nationally and internationally, for the high quality of its degrees and research. You are now part of that process – on a daily basis you will be interacting with researchers at the forefront of a wide range of mathematical disciplines, as well as with other good mathematicians of your age. To maintain the standard of the programme it is necessary to set high standards for you to achieve.

Your programme is challenging and adjustment from school to university mathematics is not easy. Although many of the topics you meet in the First Year may be familiar, do not fall into the trap of thinking 'I already know this' and so failing to take on board new ideas. You need to develop a deeper insight into even the simplest concepts and should acquire a feel for rigorous mathematical argument. We will also require you to be able to perform basic mathematical tasks quickly and clearly, without formula sheets or calculators. Try to avoid leaving gaps in your knowledge – the Second and Third Year material requires a firm foundation. If, for example, you decide 'I can pass the First Year without understanding much about complex numbers', you will find some of the later modules very difficult indeed. In order to progress from one year to the next, it is necessary to pass all core modules.

Above all, you should enjoy mathematics: doing it yourself, learning about it from others and studying it with others. If you never come away from a lecture, problem class or tutorial thinking 'that's a really nice result', or 'that makes perfect sense – it all fits together beautifully', or being excited about having solved a problem or proved a result yourself, you will be missing out on a large part of the experience. All of the staff in the Department hope and trust you have a successful and rewarding time here.

Dr Chris Hallsworth, Director of Undergraduate Studies

September 2022

Academic and administrative staff

Contact details for Department of Mathematics staff members can be found online at:
<http://www.imperial.ac.uk/natural-sciences/departments/mathematics/about-us/people/>

Staff research interests can be viewed online at:<http://www.imperial.ac.uk/natural-sciences/departments/mathematics/research/>



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Maths Central & Departmental Notifications

All current programme information is available for students on the Blackboard Learn (the College's VLE) page '**Maths Central**' (<https://bb.imperial.ac.uk>).

If any information is missing, students should contact the Undergraduate Education Office.

Important Year and programme announcements will be sent by email to students' Imperial email addresses. **Please check this email account daily.**

Notices may also be posted on the Departmental noticeboards around the building as well as on Blackboard on Maths Central or individual module pages.

Communication with the Department

Please use your official Imperial College email address for all communications around your programme with staff in the Department and College. If logging onto MS Teams for College related meetings, please ensure that you are logging on with your Imperial student email address.

Attendance and absence

You must inform your Senior Undergraduate Tutor if you are absent from College for more than three days during term. If the absence is due to illness you must produce a medical certificate after seven days. If you miss an examination or the deadline for any other assessment (including lab work, in class tests and all forms of coursework or presentation) due to illness or other unforeseeable and unavoidable circumstance you must follow the College's Mitigating Circumstances Policy and Procedure. Please note all claims for mitigation must be submitted within 10 working days of the examination or assessment deadline. If you are unable to provide evidence at the time you must submit the claim and indicate what evidence will follow and when it can be provided. Claims without evidence will normally be rejected. Please see the section on mitigation below.

The Registry will be informed of all student non-attendances as the College is obliged to report the non-attendance of students on Tier 4/Student Route visas to the Home Office.

Departmental information:

Students must not miss compulsory meetings or events without prior permission to do so.

You should inform the Year Tutor or Undergraduate Senior Tutor in advance if you are going to miss an assessed work deadline or test. They will be able to advise you on best course of action. Please email academic members of staff directly if you cannot make an appointment.

If you miss a certain number of appointments/assessments compulsory Year or Tutor meetings, you will be called in for a meeting by the Year Tutor/Undergraduate Senior Tutor. Should your attendance not improve, you may be asked to withdraw from the College.

Attendance is normally recorded at: start of Year Meetings, Personal Tutor Meetings and Personal Tutor and Peer Tutorial sessions, tests and select coursework hand-ins, examinations and project supervisory meetings/presentations. Attendance may also at points be taken at lectures and problems classes.

Key dates 2022–23

Term dates

| | |
|--------------|-----------------------------------|
| Autumn term: | 1 October 2022 - 16 December 2022 |
| Spring term: | 7 January 2023 - 24 March 2023 |
| Summer term: | 29 April 2023 - 30 June 2023 |

Closure dates

| | |
|-------------------------|--|
| Christmas/New year: | 24 December 2022 - 2 January 2023 (College reopens on 3 January 2023) |
| Easter Holiday: | 6 April 2023 - 12 April 2023 (College reopens on 13 April 2023) |
| Early May Bank Holiday: | 1 May 2023 |
| Spring Bank Holiday: | 29 May 2023 |
| Summer Bank Holiday: | 28 August 2023 |

Key events

| | |
|---------------------------------|-----------------------------|
| Great Exhibition Road Festival: | 17 June 2023 – 18 June 2023 |
|---------------------------------|-----------------------------|

2. Programme information

The Purpose, Objectives and Relevance of the Undergraduate Degree Programme

What is Mathematics?

The general perception is that ‘mathematics is using numbers’. This is imprecise and incomplete. A better description might be that ‘mathematics is the science of patterns,’ although other important features are abstraction (looking at basic ideas and constructs) and precision of calculation and of argument.

The degree programmes within the Department of Mathematics have been structured in order to make the study of mathematics an enriching and enjoyable experience. The First Year is the same across all programmes. The Second Year contains a mixture of core and elective modules, and the lecture modules in the Third and Fourth are all electives. This allows you to acquire a solid knowledge of a broad range of topics in Mathematics and gives you the flexibility to specialise according to your interests. In classifying your degree, marks from later years are weighted more highly than marks from your first year.

Learning needs to be ‘active’ rather than ‘passive’. **Mathematics is not a spectator sport.** The very lifeblood of mathematics is contained in doing problems and trying to prove results. This often involves trying to break down a difficult task into a sequence of more straightforward ones and some degree of experimentation with different approaches. Learning should be ‘deep’, involving strong understanding of the structure and interrelationship of knowledge, rather than ‘shallow’, where the emphasis is on pure memory work.

Learning Outcomes

The intended learning outcomes of the undergraduate degree programmes can be found in the individual programme specifications

(<http://www.imperial.ac.uk/staff/tools-and-reference/quality-assurance-enhancement/programme-information/programme-specifications/>).

For example, for the G100 BSc in Mathematics, these are that on successful completion of the programme you should be able to:

- demonstrate an understanding of core material and more specialised areas by assimilating and applying a large body of complex, inter-related concepts;
- use logical mathematical argument and deductive reasoning, together with formal processes of mathematical proof and development of mathematical theories;
- take a structured mathematical-analytical approach to problem solving, recognising the importance of assumptions made and consequences of their violation;

- apply Mathematics as a language to describe and model a wide range of situations relevant to research or industry, choosing appropriate solution methods and interpreting results;
- solve open-ended problems and problems with well-defined solutions by formulating problems in precise terms, identify key issues and try different approaches in order to make progress;
- develop programming skills and practices to further mathematical understanding and solve mathematical problems;
- communicate mathematical understanding concisely and appropriately in varied situations and to diverse audiences;
- manage and evaluate your learning, making appropriate choices for your self-development and use appropriate support and resources;
- work and plan effectively, both individually and as part of a team, making use of appropriate investigative methods.

The intended learning outcomes for intermediate years and for the MSci are detailed in the programme specifications:

<http://www.imperial.ac.uk/staff/tools-and-reference/quality-assurance-enhancement/programme-information/programme-specifications/>

The College has extensive Qualitative Assurance procedures concerning the content, delivery and assessment of programmes. Programme Specifications for the BSc/MSci degree programmes detailed here have been constructed in accord with the Quality Assurance Agency Subject Benchmarking for Mathematics, Statistics and Operational Research.

Further information about quality assurance can be viewed online at:

<https://www.imperial.ac.uk/about/governance/academic-governance/senate-subcommittees/>

Undergraduate Degree Programmes

| Degrees on Offer | BSc 3 Year | MSci 4 Year |
|--|---------------|----------------|
| Mathematics | G100 | G103 |
| Mathematics with Mathematical Computation | G102 | - |
| Mathematics (Pure Mathematics) | G125 | - |
| Mathematics with Applied Mathematics/Mathematical Physics | G1F3 | - |
| Mathematics with Statistics | G1G3 | - |
| Mathematics with Statistics for Finance | G1GH | - |
| Mathematics with a Year Abroad <i>(Includes study abroad year at a partner institute in Europe/North America)</i> | - | G104 |

The Department offers seven BSc Honours degrees and two MSci Honours degrees. The first two years of the BSc and MSci degrees are essentially the same so there is some opportunity for transfer between these degrees.

The First Year, and most of the Second Year, course of study is similar in all the degree programmes, except that some of the electives are compulsory in select specialist programmes. The overall programme design is such that the modules, from which individual choices are expected to be made in the later Third (and possibly Fourth) Year of study, mainly fall into the various subject groups: Pure Mathematics, Applied Mathematics, Mathematical Physics, Numerical Analysis, Statistics and Mathematical Methods. Students may choose freely from the overall set of modules available to them (subject to Departmental approval). There is considerable flexibility so that individual students may remain broad in their interest or become more specialised. A final choice of degree registration among G100, G102, G125, G1F3, G1G3 and G1GH is not necessary until the third year of studies, but students need to be aware of the requirements of specific programmes when making choices in the first two years.

Note: Some modules are also attended by students on the Joint Mathematics and Computer Science degree.

All degrees are subject to the College Academic Regulations and can be viewed online at:
<http://www.imperial.ac.uk/about/governance/academic-governance/regulations/>

BSc (Honours) Degrees: Every graduating Honours student qualifies for a BSc G100 Mathematics degree. Alternatively, they may opt for a specialist degree – G102, G125, G1F3, G1G3 or G1GH. To qualify for the BSc specialist degrees, students will be required to take a certain number of modules from a specified subset of the full list of options. A student who does not satisfy the requirements for a specialist degree, but who does satisfy the overall requirements, will be awarded a BSc degree in G100 Mathematics. Exit awards for those not meeting progression or Honours requirements are available at the end of years 1, 2 or 3.

Progression Requirements for three-year degrees G100, G102, G125, G1F3, G1G3, and G1GH:

In order to progress to the next level of study, you must have passed all modules (equivalent to 60 ECTS) in the current level of study at first attempt, at resit or by an allowed (dependent on degree programme) compensated pass.

The overall weighted average for each year must be 40%, including where a module(s) has been compensated, in order for you to progress to the next year of the programme.

MSci Degrees: The MSci is an undergraduate ‘Masters’ degree with a final year at the level of a taught postgraduate MSc programme. On successful completion, a degree title on the lines of ‘Master in Science (incorporating Bachelor’s level study)’ is awarded. The department offers two MSci degrees – G103 and G104.

Very occasionally, circumstances may require the Department to graduate an MSci student with a BSc.

Progression Requirements for G103 and G104:

G103: In order to progress to the next level of study, you must have passed all modules (equivalent to 60 ECTS) in the current level of study at first attempt, at resit or by a compensated pass. Additionally, the overall aggregate mark for the year, including where a module(s) has been compensated, must normally be at least as follows:

year 1: 40 percent

year 2: 60 percent

year 3: 58 percent.

A student who fails to meet the above threshold in year 2 may remain on the G103 programme if they have a year 2 aggregate mark of at least 55 percent. However, they will normally be required to achieve an aggregate mark of at least 60 percent in year 3. A student who is not permitted to remain on G103 for year 3 will be transferred to a BSc degree.

G104: In order to progress to the next level of study, you must have passed all modules (equivalent to 60 ECTS) in the current level of study at first attempt, at resit or by a compensated pass. Additionally, the overall aggregate mark for the year, including where a module(s) has been compensated, must normally be at least as follows:

year 1: 40 percent

year 2: 60 percent

Satisfactory completion of a language requirement (Level 3 or above, as determined by the College's Centre of Languages, Culture and Communication) will normally be required for students spending their year abroad in a non-English speaking country. This will include in most cases, students being required to take and pass language modules at the College's Centre for Languages, Culture and Communication (or its equivalent elsewhere) in Years 1 and 2 Language modules taken do not count for degree classification and are instead for pass/fail credit.

A student who is not permitted to remain on G104 for year 3 will be transferred to a BSc or MSci Mathematics degree.

Please note that students in Year 1 who pass less than 20 ECTS credits in their first attempt, will normally be instructed to terminate their studies and withdraw from the College.

Full progression information is available in the Programme Specifications:

<http://www.imperial.ac.uk/staff/tools-and-reference/quality-assurance-enhancement/programme-information/programme-specifications/>

Degree Changes

Students are able to change between three-year mathematics degree programmes (or dropping down from a four-year to a three-year programme) by completing a Degree Change form and (if appropriate) ensuring that they comply with the requirements for any specialist coding module options.

Students wishing to move to the G103 programme (after the first year) must be able to comply with the Year 2 and 3 mark requirements.

Students may be able to transfer into G104 if they can satisfy the Department of their language skills (if wishing to go to a partner institution in Europe). Normally such transfers will be considered at the end of the First Year of study. Students must also meet the normal G104 Year 2 mark requirements in addition to the language requirements. Selection for the Year Abroad at MIT takes place in the second term of second year. Places are limited.

International students on a Tier-4/Student visa are advised to consult the International Student Support Office prior to making ANY degree change as you may be required to apply for a new visa.

To request a degree change, students must complete a Degree Change **form which can be found on Blackboard Maths Central**. The form should be returned by email to the Undergraduate Education Office.

English language requirement

If you are not a native English speaker, you must meet the College's English language requirements.

See the Admissions website for details:

 www.imperial.ac.uk/study/ug/apply/requirements/english

For information on English language support available while you're here, see the Centre for Academic English:

 <http://www.imperial.ac.uk/academic-english>

The Department of Mathematics offers extra English language classes to students who are identified as benefiting from extra language support through the English language test given at the beginning of Term 1. The English language classes are timetabled in addition to the Mathematics modules. Participation is compulsory. The classes are taught by staff from the Centre of Academic English. Good working knowledge of English is seen as vital to success on the programme.

Year Programmes

The academic programme takes place over three terms – Term 1 (also known as Autumn Term), Term 2 (also known as Spring Term) and Term 3 (also known as Summer Term).

The programme of study is broadly based so that students are given a variety of core modules across different areas of mathematics in the first two years, building a strong foundation for more in-depth study.

Learning and Teaching Delivery Methods

You will learn through a combination of lectures, problem classes, tutorials, computing lab classes, group work and self-study. Support for learning, in the form of tutorials and problem classes, is tapered. It is greater in the early stages of the programme, allowing students to develop into fully independent learners by the end of the programme.

Lectures

Lecture notes or a suitable text will be available for all modules, you are expected to take your own notes in addition to these, in order to support your learning and understanding. Where notes are available, they may be a condensed version of the notes you can take during lectures. Some lecturers may supply 'gapped' notes with some text printed and where you expected to write in other parts during a lecture.

In-person lectures will usually be recorded using the Panopto system. This is useful for reviewing those parts of lectures which you may have found difficult, or for catching up on a

lecture you have missed due to illness. It should not be used as a substitute for attending lectures.

Problems Classes and Tutorials

In addition to lectures, most year 1 and 2 modules are supported by timetabled classes/tutorials. The classes are usually delivered across a number of rooms where different activities may take place in each room. You will be expected to prepare for these classes by working on problem sheets produced by the lecturers. Activities in the classes can include: asking questions from problem sheets or the lectures, working in small groups on given or new questions, and engaging with presentations of solutions to select problems.

In year 3, lecturers will include regular problem-solving sessions as part of their timetabled lectures.

Tutorials

In terms 1 and 2 of year 1, you will have regular tutorials with your personal tutor as part of a small group (around 5 or 6). You will also have a ‘peer-tutorial’ with a higher-year undergraduate or MSc student. You need to prepare in advance for these tutorials and attendance is recorded.

Office hours/Question and Answer sessions and online forums are there to support your learning and provide an avenue for you to ask (and answer) questions on the module. You are encouraged to take an active part in all small group learning and other sessions to fully engage with the material.

Independent learning

You will be expected to spend a substantial amount of time on independent study. This will include preparation for and working on material from lectures; working through problem sheets and other formative assignments either individually or in groups; other preparation for tutorials and problem-solving/ group learning classes; producing coursework for submission and assessment; preparation for examinations.

Group Learning

You will have the opportunity to work in groups through peer-tutorials, problem-solving classes, projects and assessments. These opportunities will give you the opportunity to deepen your mathematical understanding and develop improved communications and team work skills. You are encouraged to work together on your lecture notes and unassessed problem sheet questions with other students outside formal sessions.

Research Projects

In term 3 of years 1 and 2, you will undertake a short research-oriented project. The year 1 project is an individual project and the year 2 project is a group project (in a group of around 5 students) directed by a member of staff. In year 3, if you are on a 3-year degree programme you may complete a 7.5 ECTS Research Project as one of your elective modules. If you continue to do the MSci, you will complete a substantial project in your final year, worth 15 ECTS.

Overall Workload

Your overall workload consists of face-to-face sessions and independent learning. While your actual contact hours may vary according to the optional modules you choose to study, the following gives an indication of how much time you will need to allocate to different

activities at each level of the programme. At Imperial, one **ECTS credit** is taken to equate to an expected total study time of 25 hours. Therefore, the indicative total study time is 1500 hours per year. As these are indicative study times, you may need to make adjustments to these suggested times to account for your individual learning style.

During year 1 you will typically spend around 22 percent (330 hours) of your time in lectures, problem classes and tutorials. In year 2 it will be around 20 percent (300 hours), and around 16 percent (240 hours) in year 3. The remaining time is for self-study.

First Year Programme

Students on all programmes study the modules indicated below.

If a module is designated as core it must be passed, if necessary after reassessment, in order to progress to the second year.

If a module is designated as compulsory or elective, examiners may decide to award a compensated pass if the module mark is no more than 10 percent below the pass mark. In years 1 and 2, such compensation will normally only be applied after one reassessment attempt.

'Weighting' is the weighting of the overall module mark in the year total.

Students may also opt to take an Imperial Horizons module (see more information later in this Handbook) as an extra optional module. Horizons modules in Year 1 do not count towards the Honours Degree programme or marks.

| Module Codes | Module Title | No. of Lectures/ Classes (Approx.) | Terms | Core/ Compulsory | Weighting | ECTS Values |
|-------------------|---|------------------------------------|---------------|------------------|-----------|-------------|
| MATH40001 | Introduction to University Mathematics | 24 / 16 | 1 (weeks 1-4) | Core | 0 | 5 |
| General Overview: | This module provides a transition towards the way you will be thinking about, and doing, Mathematics during your degree. It will stress the importance of precise definitions and rigorous proofs, but also discuss their relationship to more informal styles of reasoning which are often encountered in applications of Mathematics. Topics to be covered will include an introduction to abstract sets, functions and relations, common proof strategies, the naturals, rationals and reals, and elementary vector operations and geometry. | | | | | |
| Assessment: | <p>Students receive formative feedback during problem-solving classes.</p> <p>Summative assessment will be based on:</p> <p>10% coursework portfolio which may comprise of any or some of the following: on-line quizzes, written coursework, group work, or other small assignments.</p> <p>20% (week 2) hand in assessment</p> <p>20% in-class test (week 3)</p> | | | | | |

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| | 50% in-class test (week 4) As this is a fundamental module, students will be allowed several attempts at some of the assessments, but the pass mark will be 50 percent rather than 40 percent. The module is pass/fail. | | | | | |
| MATH40002 | Analysis 1 | 40 / 14 | 1 (weeks 5-11)+2 | Core | 2 | 10 |
| General Overview: | Analysis I is a rigorous treatment of some basic concepts involving limits of real and complex numbers. It covers limits of sequences and series of real and complex numbers, the continuity and differentiability of functions, and limiting constructions leading to the integral of a single-variable function. | | | | | |
| Assessment: | <p>Students receive formative feedback during problem-solving classes and tutorials.</p> <p>Summative assessment will be based on:</p> <ul style="list-style-type: none"> 5% 1-hour in-class test (week 8, Term 1) 10% 1-hour exam (week 1, Term 2) 5% 1-hour in-class test (week 6, Term 2) 10% coursework portfolio which may comprise of any or some of the following: on-line quizzes, written coursework, group work, or other small assignments. 70% 3-hour final exam (Term 3) | | | | | |
| MATH40003 | Linear Algebra and Groups | 40 / 14 | 1 (weeks 5-11)+2 | Core | 2 | 10 |
| General Overview: | Linear Algebra is fundamental in Mathematics. In this module you will generalise what you already know about systems of linear equations and matrices and view them in the more abstract, and more geometric, framework of vector spaces and linear transformations. The module also provides an introduction to Group Theory, another fundamental topic in abstract algebra. | | | | | |
| Assessment: | <p>Students receive formative feedback during problem-solving classes and tutorials.</p> <p>Summative assessment will be based on:</p> <ul style="list-style-type: none"> 5% 1-hour in-class test (week 8, Term 1) 10% 1-hour exam (week 1, Term 2) 5% 1-hour in-class test (week 6, Term 2) 10% coursework portfolio which may comprise of any or some of the following: on-line quizzes, written coursework, group work, or other small assignments. 70% 3-hour final exam (Term 3) | | | | | |
| MATH40005 | Probability and Statistics | 40 / 14 | 1 (weeks 5-11)+2 | Core | 2 | 10 |
| General Overview: | This module offers an introduction to probability and statistics. The first term will focus on probability concepts, within an axiomatic framework. In the second term, there will be a strong emphasis on principles of modelling and data analysis. You will learn to use the formal language of probability to express ideas of uncertainty and variability. Using data sets from varied scientific contexts, you will fit and criticize statistical models with statistical packages such as R. | | | | | |

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|-------------------|---|---------|------------------|------------------------------------|---|----|
| Assessment: | <p>Students receive formative feedback during problem-solving classes and tutorials.</p> <p>Summative assessment will be based on:</p> <p>5% 1-hour in-class test (week 8, Term 1)</p> <p>10% 1-hour exam (week 1, Term 2)</p> <p>5% 1-hour in-class test (week 6, Term 2)</p> <p>10% coursework portfolio which may comprise of any or some of the following: on-line quizzes, written coursework, group work, or other small assignments.</p> <p>70% 3-hour final exam (Term 3)</p> | | | | | |
| MATH40004 | Calculus and Applications | 40 / 14 | 1 (weeks 5-11)+2 | Core | 2 | 10 |
| General Overview: | This module provides an introduction to applied mathematics. The goal is to provide you with a selection of mathematical tools and enable you to acquire the necessary skills to solve more complex problems in applied mathematics than you will have tackled previously. | | | | | |
| Assessment: | <p>Students receive formative feedback during problem-solving classes and tutorials.</p> <p>Summative assessment will be based on:</p> <p>5% 1-hour in-class test (week 8, Term 1)</p> <p>10% 1-hour exam (week 1, Term 2)</p> <p>5% 1-hour in-class test (week 6, Term 2)</p> <p>10% coursework portfolio which may comprise of any or some of the following: on-line quizzes, written coursework, group work, or other small assignments.</p> <p>70% 3-hour final exam (Term 3)</p> | | | | | |
| MATH40007 | Introduction to Applied Mathematics | 20 / 17 | 2 | Core for G1F; otherwise compulsory | 1 | 5 |
| General Overview: | This module aims to show students how the ideas they learn in Year 1 can be used to provide a mathematical underpinning for a range of scientific problems. The objective of the course is to describe a unified mathematical framework that embraces multiple disciplines involving engineering challenges as well as problems outside the physical sciences such as economics and statistics. | | | | | |
| Assessment: | <p>Students receive feedback during problem-solving classes and tutorials.</p> <p>Summative assessment will be based on:</p> <p>5% coursework #1</p> <p>20% in-class midterm test (week 6 of Term 2)</p> <p>5% coursework #2</p> <p>70% cumulative final exam</p> | | | | | |

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|-------------------|--|--------|------------------|------|---|---|
| MATH40006 | Introduction to Computation | 6 / 25 | 1 (weeks 5-11)+2 | Core | 1 | 5 |
| General Overview: | This module provides an introduction to computation and programming in Python. The illustrative examples, practice questions and assessment tasks will be guided by computational principles and their underlying mathematical concepts; this is a module that aims to equip students with a general understanding that they can adapt to fresh problems and different programming environments. | | | | | |
| Assessment: | <p>Students receive formative feedback during the tutored labs.</p> <p>Summative assessment will be based on:</p> <p>20% controlled assessment (week 11, Term 1)</p> <p>20% In-class test (week 7, Term 2)</p> <p>60% controlled assessment (week 11, Term 2)</p> | | | | | |
| MATH40008 | Individual Research Project | 6 / 6 | 3 | Core | 1 | 5 |
| General Overview: | This module allows students to develop elementary research skills in mathematics while developing their personal interests in a specific area of mathematics. | | | | | |
| Assessment: | <p>Students receive formative feedback during tutorials and workshops.</p> <p>Individual summative feedback is provided by comments on the poster and the oral.</p> <p>Poster: 60%</p> <p>Oral: 40%</p> | | | | | |

G104 only:

| Module Title | No. of Lectures/ Classes (Approx.) | Terms | Core/ Compulsory | Weighting | ECTS Values |
|--|------------------------------------|-------|--------------------|-----------|-------------|
| Language: G104 students normally take a language module in addition to the mathematics modules | Depends on module taken | 1 + 2 | Core (if required) | 0 | 7.5 |

International students (for select students):

| | | | | | |
|------------------|----------|---|---|---|---|
| English language | 16 hours | 1 | - | 0 | 0 |
|------------------|----------|---|---|---|---|

Second Year Programme

In the Second Year, students continue to build a breadth of understanding in mathematics and study a number of core modules. In addition to these, students will be able to select a number of optional modules to deepen their understanding in specific areas of mathematics. Electives can be prerequisites for year 3 modules, but students will be advised about such

dependencies prior to making their choice of year 2 electives; prerequisites can be varied at the discretion of the Department.

Please see the 2022-23 Year 2 Guide on Maths Central for further information.

Choice of electives is dependent on Degree programme. Students on specialist programmes will be required to take some of the optional modules in Year 2 as compulsory electives.

Students will choose options as follows:

G100: Select one module from Group A and 4 modules from Group B.

G102: Select one module from Group A and 2 modules from Group B. The modules Network Science and Principles of Programming are considered core for this Degree coding and must be taken. Select 2 further modules from Group B.

G125: Select one module from Group A. The modules Groups and Rings and Lebesgue Measure and Integration are considered core for this Degree coding and must be taken. Select 2 further modules from Group B.

G1F3: Select one module from Group A. The module Partial Differential Equations in Action is considered core for this Degree coding and must be taken. Select 3 further modules from Group B.

G1G3: Select one module from Group A. The modules Probability for Statistics and Statistical Modelling I are considered core for this Degree coding and must be taken. Select 2 further modules from Group B.

G1GH: Select one module from Group A. The modules Probability for Statistics and Statistical Modelling I are considered core for this Degree coding and must be taken. Select 2 further modules from Group B.

G103: Select one module from Group A and 4 modules from Group B.

G104: Select one module from Group A (if you are required to take a language module, you must choose this as your I-Explore module - see below) and 4 modules from Group B.

I-Explore Modules

Students will also take an **I-Explore module** in their second year:

Through I-Explore, you'll have the chance to deepen your knowledge in a brand new subject area, chosen from a range of for-credit modules built into your course.

Please note that although the module counts for pass/fail for the purposes of progression and the mark is not counted in your Honours Degree calculations, the I-Explore mark will appear on your transcript.

 www.imperial.ac.uk/study/ug/i-explore

| Module Title | Terms | Core/ Compulsory | Group | Weighting | ECTS Values |
|---------------------------------------|-------|---------------------|-------|-----------|----------------|
| Linear Algebra and Numerical Analysis | 1+2 | Core | | 2 | 10 |
| Analysis II | 1+2 | Core | | 2 | 10 |
| Multi-variable Calculus and | 1+2 | Core | | 2 | 10 |

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|---|---------|-------------------------|---|---|----------|
| Differential Equations | | | | | |
| Group Research Project | 3 | Core | | 1 | 5 |
| i-Explore or Horizons Module (For G104 students the i-Explore modules must be the required language course, if applicable) | Various | Compulsory (pass/ fail) | A | 0 | 5 or 7.5 |
| Groups and Rings | 1 | Elective | B | 1 | 5 |
| Lebesgue Measure and Integration | 2 | Elective | B | 1 | 5 |
| Probability for Statistics | 1 | Elective | B | 1 | 5 |
| Statistical Modelling I | 2 | Elective | B | 1 | 5 |
| Network Science | 1 | Elective | B | 1 | 5 |
| Partial Differential Equations in Action | 2 | Elective | B | 1 | 5 |
| Principles of Programming | 2 | Elective | B | 1 | 5 |

Third Year Programmes

In the Third Year, students choose all of their modules and will take between 60 and 62.5 ECTS. At least 52.5 ECTS must come from 3rd year (level 6) Mathematics modules. If choosing to take a Year 2 module, this must be one not previously taken. Specialist Degrees will require students to take a certain number of modules from a specified subset of available modules. Full information on these requirements are available in the Programme Specifications for each degree programme. Students may seek advice from specialist staff at set Office Hours and their Personal Tutors on module choices which align with their individual interests and strengths.

The list of modules below is indicative only and is subjective to change.

| Module Title | Core/Elective | Credits |
|--|---------------|---------|
| Fluid Dynamics 1 | Elective | 7.5 |
| Fluid Dynamics 2 | Elective | 7.5 |
| Introduction to Geophysical Fluid Dynamics | Elective | 7.5 |

| | | |
|---|----------|-----|
| Asymptotic Methods | Elective | 7.5 |
| Optimisation | Elective | 7.5 |
| Applied Complex Analysis | Elective | 7.5 |
| Dynamics of Learning and Iterated Games | Elective | 7.5 |
| Dynamical Systems | Elective | 7.5 |
| Bifurcation Theory | Elective | 7.5 |
| Geometric Mechanics | Elective | 7.5 |
| Classical Dynamics | Elective | 7.5 |
| Mathematical Finance: An Introduction to Option Pricing | Elective | 7.5 |
| Mathematics of Business & Economics | Elective | 7.5 |
| Mathematical Biology | Elective | 7.5 |
| Quantum Mechanics I | Elective | 7.5 |
| Special Relativity and Electromagnetism | Elective | 7.5 |
| Tensor Calculus and General Relativity | Elective | 7.5 |
| Quantum Mechanics II | Elective | 7.5 |
| Theory of Partial Differential Equations | Elective | 7.5 |
| Function Spaces and Applications | Elective | 7.5 |
| Advanced Topics in Partial Differential equations | Elective | 7.5 |
| Finite Elements: Numerical Analysis and Implementation | Elective | 7.5 |
| Numerical Solution of Ordinary Differential Equations | Elective | 7.5 |
| Computational Linear Algebra | Elective | 7.5 |
| Computational Partial Differential Equations | Elective | 7.5 |
| Methods for Data Science | Elective | 7.5 |
| Scientific Computation | Elective | 7.5 |
| Probability Theory | Elective | 7.5 |
| Functional Analysis | Elective | 7.5 |
| Fourier Analysis and the Theory of Distributions | Elective | 7.5 |
| Markov Processes | Elective | 7.5 |
| Geometry of Curves and Surfaces | Elective | 7.5 |
| Algebraic Curves | Elective | 7.5 |
| Algebraic Topology | Elective | 7.5 |
| Algebra 3 | Elective | 7.5 |
| Group Theory | Elective | 7.5 |
| Galois Theory | Elective | 7.5 |

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|---|----------|-----|
| Graph Theory | Elective | 7.5 |
| Group Representation Theory | Elective | 7.5 |
| Formalising Mathematics | Elective | 7.5 |
| Mathematical Logic | Elective | 7.5 |
| Number Theory | Elective | 7.5 |
| Algebraic Number Theory | Elective | 7.5 |
| Statistical Theory | Elective | 7.5 |
| Statistical Modelling II | Elective | 7.5 |
| Applied Probability | Elective | 7.5 |
| Time Series Analysis | Elective | 7.5 |
| Stochastic Simulation | Elective | 7.5 |
| Survival Models | Elective | 7.5 |
| Introduction to Statistical Learning | Elective | 7.5 |
| Consumer Credit Risk Modelling | Elective | 7.5 |
| Research Project in Mathematics | Elective | 7.5 |
| Horizons or BPES module (only select modules allowed as credit) | Elective | 5 |
| Groups and Rings | Elective | 5 |
| Lebesgue Measure and Integration | Elective | 5 |
| Probability for Statistics | Elective | 5 |
| Statistical Modelling 1 | Elective | 5 |
| Network Science | Elective | 5 |
| Partial Differential Equations in Action | Elective | 5 |
| Principles of Programming | Elective | 5 |

Fourth Year Programme

Those students on the G103 and G104 degree programmes continue to the fourth year of the programme. In Year 4, students choose six 4th year (level 7) modules. A student may not take both the Year 3 and Year 4 version of a module.

All students also take the core Mathematics Research Project module. (15 ECTS).

The list of modules below is indicative only and is subjective to change.

| Module Title | Core/Elective | Credits |
|------------------|---------------|---------|
| Fluid Dynamics 1 | Elective | 7.5 |
| Fluid Dynamics 2 | Elective | 7.5 |

| | | |
|---|----------|-----|
| Introduction to Geophysical Fluid Dynamics | Elective | 7.5 |
| Vortex Dynamics | Elective | 7.5 |
| Hydrodynamic Stability | Elective | 7.5 |
| Asymptotic Methods | Elective | 7.5 |
| Optimisation | Elective | 7.5 |
| Applied Complex Analysis | Elective | 7.5 |
| Dynamics of Learning and Iterated Games | Elective | 7.5 |
| Dynamical Systems | Elective | 7.5 |
| Bifurcation Theory | Elective | 7.5 |
| Random Dynamical Systems and Ergodic Theory: Seminar Course | Elective | 7.5 |
| Geometric Mechanics | Elective | 7.5 |
| Classical Dynamics | Elective | 7.5 |
| Mathematical Finance: An Introduction to Option Pricing | Elective | 7.5 |
| Mathematical Biology | Elective | 7.5 |
| Quantum Mechanics I | Elective | 7.5 |
| Special Relativity and Electromagnetism | Elective | 7.5 |
| Tensor Calculus and General Relativity | Elective | 7.5 |
| Quantum Mechanics II | Elective | 7.5 |
| Introduction to Stochastic Differential Equations | Elective | 7.5 |
| Theory of Partial Differential Equations | Elective | 7.5 |
| Function Spaces and Applications | Elective | 7.5 |
| Advanced Topics in Partial Differential equations | Elective | 7.5 |
| Finite Elements: Numerical Analysis and Implementation | Elective | 7.5 |
| Numerical Solution of Ordinary Differential Equations | Elective | 7.5 |
| Computational Linear Algebra | Elective | 7.5 |
| Computational Partial Differential Equations | Elective | 7.5 |
| Methods for Data Science | Elective | 7.5 |
| Scientific Computation | Elective | 7.5 |
| Mathematical Foundations of Machine Learning | Elective | 7.5 |
| Probability Theory | Elective | 7.5 |
| Functional Analysis | Elective | 7.5 |
| Fourier Analysis and the Theory of Distributions | Elective | 7.5 |
| Stochastic Calculus with Applications to non-Linear Filtering | Elective | 7.5 |
| Markov Processes | Elective | 7.5 |

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|--------------------------------------|----------|-----|
| Geometry of Curves and Surfaces | Elective | 7.5 |
| Algebraic Curves | Elective | 7.5 |
| Algebraic Topology | Elective | 7.5 |
| Algebraic Geometry | Elective | 7.5 |
| Riemannian Geometry | Elective | 7.5 |
| Manifolds | Elective | 7.5 |
| Differential Topology | Elective | 7.5 |
| Complex Manifolds | Elective | 7.5 |
| Algebra 3 | Elective | 7.5 |
| Group Theory | Elective | 7.5 |
| Galois Theory | Elective | 7.5 |
| Graph Theory | Elective | 7.5 |
| Group Representation Theory | Elective | 7.5 |
| Formalising Mathematics | Elective | 7.5 |
| Commutative Algebra | Elective | 7.5 |
| Lie Algebras | Elective | 7.5 |
| Algebra 4 | Elective | 7.5 |
| Mathematical Logic | Elective | 7.5 |
| Number Theory | Elective | 7.5 |
| Algebraic Number Theory | Elective | 7.5 |
| Elliptic Curves | Elective | 7.5 |
| Statistical Theory | Elective | 7.5 |
| Statistical Modelling II | Elective | 7.5 |
| Applied Probability | Elective | 7.5 |
| Time Series Analysis | Elective | 7.5 |
| Stochastic Simulation | Elective | 7.5 |
| Survival Models | Elective | 7.5 |
| Introduction to Statistical Learning | Elective | 7.5 |
| Consumer Credit Risk Modelling | Elective | 7.5 |
| Topics in Advanced Statistics | Elective | 5+5 |
| Research Project in Mathematics | Core | 15 |

Imperial Horizons

The College has created the ‘Imperial Horizons’ programme to broaden students’ education and enhance their career prospects. This programme is open to all undergraduate students. The programme allows students to take not-for-credit modules in topics such as psychology, business, languages, sound technology, etc., in addition to their core mathematics modules. Students will need to register for their desired options separately through the Horizons Programme at the start of the year.

The Department of Mathematics avoids timetabling core Mathematics modules during the times allocated for Horizons modules.

In Year 2 a Horizons module may be taken for credit as the required I-Explore option.

Further information about the ‘Imperial Horizons’ programme can be viewed online at:

<https://www.imperial.ac.uk/horizons/>

Imperial Mobile app

Don't forget to download the free Imperial Mobile app for access to College information and services anytime, anywhere, including your programme timetable, College emails and a library catalogue search tool.

 www.imperial.ac.uk/imperialmobile



Welcome to Imperial app

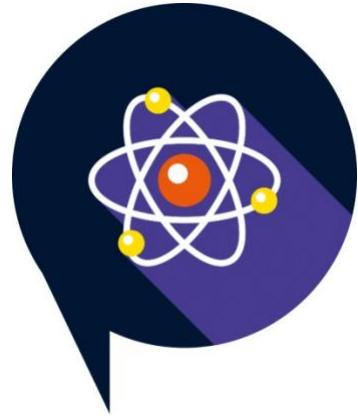
The College has a Welcome to Imperial app which contains important information about campus operations, aspects of student life, a schedule of welcome activities and information about life in halls. All new students should download this guide to ensure they have the most up to date information and event schedule for the start of term.

You can download the App from the Apple or Google App Stores.

Imperial Success Guide

The Imperial Success Guide is an online resource with advice and tips on the transition to university level study. More than just a study guide, it is packed with advice created especially for undergraduate students, including information on support, health and well-being and ideas to help you make the most of London.

 www.imperial.ac.uk/success-guide



I-Explore Modules

Through I-Explore, you'll have the chance to deepen your knowledge in a brand new subject area, choosing from a range of for-credit modules built into your degree.

Depending on your Department, you will either take an I-Explore module in your second or third year of study.



www.imperial.ac.uk/study/ug/i-explore/

3. Assessment

Within your programme of study you will have different types of assessment which may include, coursework, examinations, presentations, labs or other forms of practical assessment.

The College has policies and procedures to support the setting, sitting, marking and moderation of all assessment. These can be found within the Regulations and College Policies at:



www.imperial.ac.uk/about/governance/academic-governance/regulations/
www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/

In the Department of Mathematics, a variety of assessment methods will be used to test your understanding. Assessments may be formative, summative or both.

Formative assessments do not contribute to the module mark but provide information on your progress as an individual and in the context of your peers. This allows you to learn by using your new skills to solve problems and receive feedback on your performance to guide your future learning. This supports you to achieve a better performance in the summative assessments which do count towards your module marks. Common types of formative assessment used include: regular question sheets, questions posed by a lecturer in lectures, and exercises set by your tutor or peer-tutor.

Summative assessments are used to assess your learning against the intended module learning outcomes and contribute towards your achievement of the programme learning outcomes, detailed above. All modules contain aspects of summative assessment and these assessments will contribute towards your mark for each year. Usually the grades for summative assessment are assigned by lecturers or graduate teaching assistant but occasionally your work will be peer assessed (i.e., your grade is provided by one or more of your fellow students).

The choice of summative assessment method is largely determined by the nature of the module and its learning outcomes.

A variety of different summative assessment methods is used, including:

- Written examinations
- Short, individual tests
- Group assignments and projects
- Individual Projects
- On-line tests and quizzes
- Oral presentations

- Poster presentations.

Lecture modules in all years typically involve an end-of-year examination and some element of coursework or short tests during the module. In year 1 the end-of-year examination is usually worth 70 percent of the module; this typically increases to 80 percent in year 2 and 90 percent in years 3 and 4. Some modules, notably ones with a high computational or data analysis element, may have a higher proportion of coursework or may be assessed entirely a number of projects (which may also involve presentations).

The exact nature and frequency of these forms of assessment is decided by individual Module Lecturers. Assessed coursework is not normally set with a submission deadline after the end of the current term, though exceptions to this may be permitted for major projects.

Marked assessed coursework and progress test scripts are returned to students to provide useful feedback.

Information on assessments is included in the full Module Specifications available online on Blackboard Maths Central.

Assignments and Projects

Some modules are wholly project/assignment based and have no end-of-year examination. For some of these modules, oral presentations about the project(s) may form part of the overall assessment for the module. In Year 3 and 4 some modules assessed wholly by project/assignment may have submission dates after the end of term.

Assignment and project scripts normally need to be retained by the Department as External Examiners have the right to see them. Students should keep a copy of all assignments and project work submitted.

In the Third and Fourth Year modules, due to the amount of work Project-only modules require during term-time, students will normally be allowed to sign up for only one Project-only module per term. If students wish to apply for more, they will need to seek special permission from the Undergraduate Senior Tutor. Also note that students who take modules which are wholly assessed by project will be deemed to be officially registered on the module through the submission of a specified number of pieces of assessed work for that module. This will be communicated by the lecturer at the start of the module. Thus, once a certain point is reached in these modules, a student will be committed to completing the module.

Fourth Year Mastery Material

All Year 4 mathematics modules' final exams will be 2.5 hours in length (unless otherwise specified). The papers will include five questions. Where a module is available in a 3rd year (level 6) and a 4th year (level 7) version, the 4th year exam will normally consist of the four questions given to 3rd year students on the module, plus a fifth 'mastery' question. This additional question will test the subject in greater depth, often on the basis of extension material provided by the lecturer for students' self-study ('mastery material').

Submitting Assessed Work

All in-term coursework and projects will be submitted electronically via Blackboard. For most assessments this will require you to scan (using scanner or phone) your written work and upload this online.

Plagiarism is a serious offence and all assistance MUST be referenced.

When submitting work electronically, you will be asked to agree to a statement confirming that the submission is your “own unaided work unless stated otherwise.”

Deadlines

Unless you are instructed otherwise by your Module Lecturer or Project Supervisor, the deadline for the submission of assessed work is 1pm UK time on the due date.

Time/date deadlines are strictly adhered to. Please be very careful not to miss out on submission deadlines. Online submission boxes on Blackboard should be open at least 24 hours prior to the assessment deadline. If they are not, please contact the Undergraduate Education Office for support.

Late Submission Policy

You are responsible for ensuring that you submit your coursework assessments in the correct format and by the published deadline (date and time). Any piece of assessed work which is submitted beyond the published deadline (date and time) would be classed as a late submission and will incur a penalty (a cap at the pass mark, or it is classed as a fail). Further guidance on Late Submission of Assessments can be found on the Academic Governance website:

-  www.imperial.ac.uk/media/imperial-college/administration-and-support-services/registry/academic-governance/public/academic-policy/marketing-and-moderation/Late-submission-Policy.pdf

If you submit late due to mitigating circumstances, you may be able to make a claim that could allow for the cap on your mark to be lifted. Please see below and the policy document.

Any Extension Requests due to Mitigating Circumstances must be received in good time, normally should be received prior to the deadline, or at latest within 24 hours of the coursework due time.

Missed Assessed Work – Further information from the Department

If, due to illness or a serious personal matter, you miss a scheduled test or coursework, please fill out a Mitigating Circumstances Form. These are available on Blackboard Maths Central. The Mitigating Circumstances Board will make a decision on the request and students will be informed by email of the outcome. For Year 1 & 2 modules with a final exam and Year 3 & 4 modules with an exam worth 90%, pro-rata marks for the missed assessment may be awarded. Pro-rata marks will be based on the raw exam mark for the

module concerned. If you know ahead of time that you will be absent on the day, please inform the Year Tutor or Senior Tutor; depending on the circumstances you may be able to apply for mitigating circumstances. Coursework can always be handed in early by email directly to the Undergraduate Office.

Policy on Coursework Deadline Extensions

In exceptional cases, deadline extensions can be granted for coursework. In Year 1 extensions are normally granted only in Introduction to Applied Mathematics and the Individual Research Project.

Extension Request Forms should be directed to the Undergraduate Senior Tutor. The form can be found on Blackboard Maths Central. If the extension request is on health grounds medical evidence will be required. Lecturers should **not be** approached for extensions - the Undergraduate Senior Tutor will liaise with the lecturer on students' behalf.

Late Submission

Any piece of assessed work which is submitted beyond the published deadline (date and time) is classed as a late submission. Work submitted more than 24 hours late will not be accepted as a valid attempt and a mark of zero will be recorded.

This is the default penalty for late submissions of assessed work and should be deviated from only in exceptional circumstances.

Following is a list of circumstances in which the default penalty may be amended

- (a) Mitigating circumstances which are declared by the candidate in writing. Mitigating circumstances must be independently corroborated and of sufficient severity to have affected the candidate's ability to meet the deadline, for example illness or family bereavement;
- (b) If, in the judgement of the Undergraduate Senior Tutor, the default penalty is considered unreasonably harsh in the circumstances, for example, where it will impact adversely on the progression or graduation of a candidate, or if one member of a group has submitted work late which impacts on the rest of the group through no fault of their own.

Feedback for Late Submissions

Work submitted more than 24 hours late will normally be returned with a notional mark and feedback. If the work has not been submitted within a reasonable time period the department may decide that it would not be educationally helpful to provide feedback.

Further guidance on Late Submission of Assessments can be found on the Academic Governance website:

 www.imperial.ac.uk/media/imperial-college/administration-and-support-services/registry/academic-governance/public/academic-policy/marketing-and-moderation/Late-submission-Policy.pdf

Academic Feedback Policy

We are committed in providing you with timely and appropriate feedback on your academic progress and achievement, enabling you to reflect on your academic progress. During your study you will receive different methods of feedback according to assessment type, discipline, level of study and your individual need. Further guidance on the Policy of Academic Feedback can be found on the Academic Governance website:

-  www.imperial.ac.uk/media/imperial-college/administration-and-support-services/registry/academic-governance/public/academic-policy/academic-feedback/Academic-feedback-policy-for-taught-programmes.pdf

Departmental Information on Academic Feedback

Feedback to students on their work will be provided in a number of formats, including:

- Oral during problem classes
- Personal (discussion with staff)
- Written (e.g. model answers, group feedback, individual comments written on coursework)
- Interactive (on-line quizzes).

Oral feedback on formative work is available in problem classes, Office hours and peer-tutorials.

Written feedback is provided on projects.

Assessed work provisional marks are also made available on Blackboard. **Please note that all marks available on Blackboard are provisional and subject to ratification by the Exam Board – please see more information below.**

In 2022-23 all marks on term-time coursework and tests will be released via Blackboard.

When a particular piece of assessed work or progress test has been marked and is ready for return, the marks will be made available on Blackboard. Any feedback for electronic submissions will normally also be made available via Blackboard.

The Department works towards a two-week turnaround deadline on tests and short assessed coursework (worth 10% or less). Larger pieces of work, projects and assignments, may take longer to return. If there is a delay, please contact the Undergraduate Education Office.

Past Examination papers, along with model solutions, mark schemes and comments from the markers are available on Maths Central on Blackboard to provide general feedback on the examinations.

Please note that your examination scripts once completed belong to the College under the GDPR legislation. Please see the College GDPR webpages for further information at:

-  www.imperial.ac.uk/admin-services/secretariat/information-governance/data-protection/internal-guidance/guide-2---exam-records/

Provisional Marks Guidance

Provisional marks are agreed marks that have yet to be ratified by the Board of Examiners. These results are provisional and are subject to change by the Board of Examiners. The release of provisional marks is permitted except in certain circumstances. Further information can be found in the Guidelines for Issuing Provisional Marks to Students on Taught Programmes:

-  www.imperial.ac.uk/media/imperial-college/administration-and-support-services/registry/academic-governance/public/academic-policy/marking-and-moderation/Guidelines-for-issuing-provisional-marks-to-students-on-taught-programmes.pdf

Questions on Feedback

Assessed Coursework

Sometimes students believe their work has been marked harshly or incorrectly, or find written feedback hard to understand. In years 1 and 2, lecturers will announce the point of contact for students seeking additional feedback on work that has been marked. This may be the lecturer, the problem class lead, or the senior GTA for the module. Any other queries should be addressed to the lecturer (First and Second Years). Third and Fourth Year students should contact the lecturer to raise marking queries.

Any mark queries on term time coursework or tests must be made within two weeks of the return of the work, or a week into the following term if work is returned over a break.

In some circumstances it may be appropriate to consult your Year Tutor or the Undergraduate Liaison Officer.

In the exceptional cases where a mark change is authorised, the Undergraduate Education Office must be notified so the mark can be amended on the Departmental database. The mark change must come from the marker or lecturer.

Main Examinations

Please see information below under Examinations.

Instruction to Candidates for Examinations

Students who are candidates for examinations are asked to note that all examinations are conducted in accordance with the College Regulations. The relevant set of regulations will depend on your programme and year of entry, please see our Regulations webpage to determine which apply to you:



www.imperial.ac.uk/about/governance/academic-governance/regulations/

Instructions for exam candidates can be found here:



www.imperial.ac.uk/media/imperial-college/administration-and-support-services/registry/academic-governance/public/academic-policy/exam-arrangements-and-re-sits/Instructions-to-candidates-for-examinations.pdf

Mathematics Departmental examination information can also be viewed on Blackboard (<https://bb.imperial.ac.uk>) Maths Central in the Examinations section.

The College's Policy on re-sits is available at: www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/

Examinations

A small number of modules are assessed by project but most modules are primarily assessed by examinations that take place in May/June, Term 3. There is a separate examination for most modules in the programme.

Examination registration takes place at the beginning of Term 2.

Note that on Year 3 and 4 modules that are assessed wholly by project, a student will be deemed to be officially registered on the module through the submission of a specified number of pieces of assessed work for that module. Thus, once a certain point is reached in these modules, a student will be committed to completing the module.

Each module is given a percentage mark as well as a Pass/Fail rating.

For Year 1, 2 and 3 modules the module pass mark is 40 percent (with the exception of the Introduction to University Mathematics module for which the pass mark is 50 percent). For Year 4 (MSci) modules, the module pass mark is 50 percent.

The 10 ECTS modules in Years 1 and 2 have exams of three hours in length. These exams will have six questions, worth 20 points each. The 5 ECTS modules in Years 1 and 2 and the 7.5 ECTS modules in Year 3 will have exams of shorter length, usually two hours and four questions, please note exceptions as per the Module Specifications. Year 4 examinations will be two and a half hours in length and include a mastery question as the fifth question.

It is very important to prepare properly during the year for the examinations. Keeping up with work throughout the year will allow for appropriate revision time during the Term break prior to the examinations in May/June.

Students who do not obtain Passes in modules at the first attempt will be expected to attend resit (reassessment) examinations. For First and Second year modules, these will be in late August or early September. The Board of Examiners will determine the appropriate form of reassessment of project modules in years 1 and 2. Further resit opportunities on First and Second Year modules will be available the following May/June. For the Introductory module MATH40001, there will be additional resit opportunities in January and May of year 1.

Resit opportunities for Third and Fourth Year modules will be offered in August/September. For some modules, these may be offered as alternative assessments, such as oral examinations. Students who fail several modules may be required to take resits in the following May/June. **Resit examinations are for Pass credit only – a maximum mark of the pass mark for the module will be credited.** Once a Pass is achieved, no further attempts are permitted.

In determining whether a Mathematics module has been passed at a resit attempt, if a resit exam has been passed, then the Board of Examiners may discount any module marks obtained from coursework and award an overall pass mark for the module. This will apply to 1st and 2nd year modules and any other modules with a final exam worth at least 90 percent of the module mark.

Two resit attempts are normally available to students. However, students in Year 1 who pass less than 20 ECTS credits in their first attempt, will normally be instructed to terminate their studies and withdraw from the College. In cases where a student has not achieved the required amount of credit and no further resit attempts are permitted, the Board will graduate the student with an appropriate exit award, as detailed in the programme specifications and regulations.

Students who have not achieved the required Passes by the beginning of the new academic year are required by College to spend a year out of attendance. During this time they are not considered College students. This may create a number of issues and hold visa implications.

Students who are required to take a year out due to failed examinations or who take an interruption are not normally permitted to resubmit any coursework previously submitted during their year out.

Compensation allowances

In Years 1 and 2 compensation will normally only be applied after a re-assessment attempt. In Years 3 and 4 it may be applied after a first attempt. All compensation decisions are at the discretion of the Board of Examiners.

In Year 1 the Board of Examiners may apply compensation in non-core modules up to a value of 5 ECTS (except for the Degree coding G1F3 where no compensation is allowed).

In Year 2, for all three year programmes, the Board of Examiners may apply compensation in elective modules up to a value of 10 ECTS. For students on the G103 or G104 four year programmes, the Board of Examiners may apply compensation in elective modules up to a value of 5 ECTS.

In Year 3:

- Students on three year programmes: the Board of Examiners may apply compensation in elective modules up to a value of 15 ECTS with a maximum of 10 marks (percentage) compensated in each module.
- Students on the G103: the Board of Examiners may apply compensation in elective modules up to a value of 7.5 ECTS and a maximum of 10 marks (percentage) compensated in each module.
- Students on the G104 are abroad and must comply with Year Abroad regulations; the year abroad cannot be compensated.

In Year 4 (for G103 and G104), the Board of Examiners may apply compensation in elective modules up to a value of 15 ECTS and a maximum of 10 marks (percentage) compensated in each module.

Marks, Year Totals and Year Weightings

The raw marks from each assessment will be weighted and combined to produce a raw module mark; the raw module mark will then be converted to a 0-100 scale.

Due to the nature of Mathematics as an academic discipline it is often necessary for module marks to be scaled in order to ensure comparability across modules and so that they map appropriately onto the undergraduate degree classification system. In accordance with the [Regulations for Taught Programmes of Study](#), this process is applied consistently to all students in the cohort and reported to External Examiners and the Board of Examiners.

The Department uses the following procedures for calculating module marks:

If the module has assessed coursework/progress tests then the marks for these are combined with the total mark for the paper in the appropriate proportions to produce a raw mark for the module. For modules assessed solely by project or assignments, the assessments are added together as announced to students.

The marks for each module are then re-scaled in a piecewise-linear fashion according to the following procedure.

Based on students' performances in the module assessments and performances in the module relative to average performance in other modules, the module examiners make a decision about what they consider to be the pass / fail boundary (P), the 2(i)/ 2(ii) Boundary (T), the 2(i)/ 1st Boundary (E) and the maximum mark (M) which was realistically possible for the module. In the case of Year 1, 2 and 3 modules, the raw marks P, T, E and M are mapped to 40, 60, 70 and 100 respectively (with 0 being mapped to 0). These choices of grade boundaries (PTEM) are compared by a sub-Board of the Board of Examiners (the Liaison Panel) and further adjustments are made to ensure comparability of marks across modules. Once the values of the grade boundaries for a module have been finalised, an individual raw mark is then mapped to the 0–100 scale by linear interpolation and this becomes the student's mark for that module.

For Year 4 modules where the pass mark is 50, the process is the same except that P is mapped to 50.

The agreed mark for each module will be used to calculate year marks and final classifications using a weighted average.

In order to be considered for an award, you must have achieved the minimum number of credits at the required levels prescribed for that award and met any programme specific requirements as set out in the Programme Specification.

Candidates who do not meet the specific requirements for specialist degree codings may be transferred to, or be graduated with another BSc Mathematics coding (including G100) for which the requirements have been met.

Your classification will be determined through:

- i) Aggregate Module marks for all modules
- ii) Year Weightings

Year weightings by Degree Programme:

Three Year Programmes (G100, G1F3, G1G3, G1GH, G102, G125): Year 1 is weighted at 7.5%, Year 2 at 35% and Year 3 at 57.5%.

G103: Year 1 is weighted at: 7.5%, Year 2 is weighted at: 20%, Year 3 is weighted at: 36.25%, Year 4 is weighted at: 36.25%

G104: Year 1 is weighted at: 7.5%, Year 2 is weighted at: 25%, Year 3 is weighted at: 25%, Year 4 is weighted at: 42.5%

In a case where a student has accumulated more than 60 ECTS in year 3, weighting will applied to the modules taken; please see more information in the Programme Specifications.

The College sets the class of undergraduate degree that may be awarded as follows:

- i) First 70% or above for the average weighted module results
- ii) Upper Second 60% or above for the average weighted module results
- iii) Lower Second 50% or above for the average weighted module results
- iv) Third 40% or above for the average weighted module results

Candidates who fall within 2 percent of the boundary for a higher classification may be considered for promotion to the higher classification based on their overall academic performance. Potential promotion is considered via an algorithm. Candidates within 0.5 of a boundary will automatically be promoted to the higher class.

Examination Support

Past Examination Papers and information on examination technique and study support can be found on Blackboard (<https://bb.imperial.ac.uk>) Maths Central in the Examinations section. Study skills support can also be found on the College pages on <https://www.imperial.ac.uk/students/success-guide/ug/>.

For the new curriculum (from 2019-20 onwards), a mapping of modules from the old to the new will be available on Maths Central to help students identify questions from past papers which will support with the revision on the new programme.

Note: Until 2016-17, examination papers included a system of ‘bonus marks’ designed to give extra reward to high-scoring answers. You will see this when you look at past papers. Following a consultation exercise, this practice was discontinued in all years from 2017-18.

Arithmetic Marks Check

If you consider that there may have been an error in the adding up of your marks, you may request an arithmetic mark check. Please note that this must be requested within 10 working days of the official notification of your results from the Results team in Registry. You may not request a marks check for a previous year of study. Please note that a marks check is not a remark of your work, but an administrative check that the marks have been accurately recorded.

For the Department of Mathematics, your request must be submitted by email to the Undergraduate Education Office using the official form. The form must be received within the deadline set by the College and clearly state the mark check required. You must send your email from your Imperial email address. The form is available on Blackboard Maths Central.

Information on post examination appeals procedures can be viewed on <http://www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/appeals/>

Mitigating Circumstances

During your studies you may be affected by sudden or unforeseen circumstances. You should always contact your personal tutor for advice and support. If this happens at the time of, or immediately preceding your assessments you may be able to make a claim for mitigating circumstances. If successful this claim enables the Board of Examiners when reviewing your marks at the end of the year to have greater discretion with regards to offering repeat attempts (either capped or uncapped), a repeat year, or with your progression or final classification. Please note, the Board are not permitted to amend the marks that you were awarded, only to take your claim into account making decisions.

All claims must be supported by independent evidence and submitted within 10 working days of the assessment deadline. Any claim made after this deadline is likely to be rejected unless there is a good reason (such as you were still unwell) until the point of submitting the claim. Details of the College’s Mitigating Circumstances procedure can be found under the Mitigating Circumstances tab on the page below:



www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/

Through the procedure you may also be able to request an extension deadline to some forms of assessment. Wherever possible it is expected that this is used as it will enable you to complete your studies within the same College year (rather than over the summer holiday or in the next year).

Support for ongoing or long-term conditions, or for registered disabilities would not normally fall under the remit of mitigating circumstances and students should be supported through their studies with reasonable adjustments.. More details can be found at:



www.imperial.ac.uk/disability-advisory-service

In the Department of Mathematics, please use the Mitigating Circumstances form to report all mitigating circumstances during your time in the Department of Mathematics. and please include relevant dates. Links to forms can be found on Blackboard Maths Central under General Information, Mitigating Circumstances and Illness.

Mitigating circumstances claims should be submitted on the official form and emailed together with supporting evidence to mathsmitscircs@imperial.ac.uk. Please ensure that any claims clearly state which assessments are affected.

Examination Absences

If, for medical or other reasons, you are absent for an examination you must:

- inform the Undergraduate Senior Tutor or the Undergraduate Liaison Officer by email or phone on the day of the missed examination
- If appropriate, complete a Mitigating Circumstances form and return it to the Undergraduate Office within 10 days of the event

Note: *If any allowance is to be made then documentary evidence (for example a letter from a doctor whom you saw while unwell) to support your case will be needed. If it is impossible for you to gain evidence, you must complete the self-certification section on the Mitigating Circumstances form and indicate clearly why you were unable to gain evidence.*

If your case is accepted by the Mitigating Circumstances Board, they will refer this to the Examination Board, and a recommendation is made as to the missed exam (capped or uncapped attempt at next sitting). If your case is not accepted by the Mitigating Circumstances Board, an attempt is normally considered to have been made and a later attempt is regarded as a resit, which is for Pass credit only.

A Mitigating Circumstances form must also be completed if circumstances prohibit you from completing a major piece of assessed work, such as the Year 1 and 2 projects.

Examination Withdrawals

You may only withdraw from an examination with the permission of the Undergraduate Senior Tutor. Otherwise, a score of zero will be recorded and the module mark will be capped at the pass mark.

Academic Integrity and Academic Misconduct

As your programme of study continues, you will be taught the concept of academic integrity and how you can ensure that any work that you complete now, or in the future, conforms to these principles. This means that your work acknowledges the ideas and results of others, that it is conducted in an ethical way and that it is free from plagiarism. Academic integrity is fundamental to learning, teaching and research and it is important to understand what it means you and the international community of research that you are joining.

Academic misconduct is the attempt to gain an academic advantage, whether intentionally or unintentionally, in any piece of assessment submitted to the College. This includes plagiarism, self-plagiarism, collusion, exam offences or dishonest practice. Full details of the policy can be found at:

-  www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/plagiarism-academic-integrity--exam-offences/

Definitions of the main forms of academic misconduct can be found below:

Plagiarism

Plagiarism is the presentation of another person's thoughts, words, images, research or diagrams as though they were your own. Another form of plagiarism is self-plagiarism, which involves using your own prior work without acknowledging its reuse. Plagiarism may be intentional, by deliberately trying to use another person's work by disguising it or not citing the source, or unintentional where citation and/or referencing is incorrect.

Plagiarism must be avoided, with particular care on coursework, essays, reports and projects written in your own time but also in open and closed book written examinations. You can support your understanding of proper referencing and citation by using the resources available from the College such as the Library learning support webpages at:

-  www.imperial.ac.uk/admin-services/library/learning-support/plagiarism-awareness/

Where plagiarism is detected in group work, members of that group may be deemed to have collective responsibility for the integrity of work submitted by that group and may be liable for any penalty imposed, proportionate to their contribution.

TurnitinUK is an online text matching service which assists staff in detecting possible plagiarism. The system enables institutions and staff to compare students' work with a vast database of electronic sources. Your programme team will explain how it is used in your programme

-  www.imperial.ac.uk/admin-services/ict/self-service/teaching-learning/turnitin/

Collusion

This is the term used for work that has been conducted by more than one individual, where this has not been permitted in the assessment brief. Where it is alleged that there has been collusion, all parties will be investigated under the Academic Misconduct procedure.

You should note that whilst the College encourages students to support each other in their studies you should be careful to ensure that you do not go beyond the assessment brief with regards to individual work, always acknowledge the contributions of others in your work, and do not leave yourself open to allegations that you have supplied answers to enable another student to commit academic misconduct.

Exam offences

Exam offences fall into two categories. These are offences that may be disruptive in the exam venue or are considered an attempt to cheat. Examples of disruptive behaviour includes causing a disturbance in the exam room, having an electronic device that has not been fully turned off or talking in the exam room. Behaviour that may considered an attempt to cheat includes bringing unauthorised material into an exam (such as notes, unauthorised books or other material), attempting to communicate with others apart from the invigilator, or trying to remove examination material without permission. You must ensure that you follow all reasonable instructions of the invigilators.

Dishonest practice

This is the most serious category under the procedure. Examples of dishonest practice include bribery, contact cheating (buying work from an essay mill (which is now illegal in the UK) or other individual to submit as your own), taking an exam for someone else or getting someone else to take an exam for you, attempting to access exam papers before the exam, making a false claim for mitigating circumstances or providing fraudulent evidence, falsifying documentation or signatures in relation to assessment or a claim for mitigating circumstances.

From the Department:

Academics trade in original thought and insight. They take great pride in crediting others by meticulously quoting and referencing all sources and aim to instil the same appreciation and respect for academic work and original thought in their students. To credit others is a matter of academic integrity.

All the assessed work and projects that you submit count towards your degree. They are therefore part of the examination process and governed by its rules. Violation of these rules counts as plagiarism and is regarded as an examination offence:

- if you have worked with or consulted other people on assessed work or a project you must acknowledge their input
- if you copy text or diagrams from a book or a journal or the internet or another person this must be acknowledged in the text and there must be a corresponding reference in the bibliography
- assessed work and projects must be your own unaided work

Plagiarism is taken very seriously in the Department of Mathematics and various means are available for detecting it. Appropriate punishments can be severe. If the plagiarism is deemed minor, punishment will be imposed by the Department of Mathematics. Plagiarism deemed major will be referred to the College Registry. **This can result in students losing their entire degree.**

The source and recipient are normally treated equally – which means that if you share your work, you will be liable for the same punishments as the student who copies your work. Students who share their work are often strong students and thus the punishments can hurt them much more than if already at the bottom of the year group. Thus do NOT pass on your solutions/your code to other people as even though they may say they will not copy, you have already given your work to them, allowing for the possibility.

The severity of plagiarism is judged on the basis of the extent of plagiarism in the piece of academic work concerned; it is not judged on the basis of the weight of that piece in the overall degree. For example, a single sentence copied from an online source without appropriate citation may be deemed minor and penalised with a loss of mark. A typical punishment is the loss of all marks in the academic piece.

By comparison, a major case of plagiarism would involve, for example, significant collaboration without acknowledgement in a single piece of assessed work.

If deemed major, a possible punishment for plagiarism is the loss of all marks in all written work for the entire year. This includes all exams, whether they have already taken place or not. In these cases, a resit for Pass credit only is normally available. Cases of major plagiarism in the Final Year normally lead to a severe reduction of the degree classification.

Plagiarism/cheating often takes place when students are stressed/struggling with the work. If this is the case, please make sure that you reach out for support from your lecturer/Personal Tutor/Undergraduate Liaison Officer before you copy someone else's work and get into trouble. It is better to get a lower mark than to copy someone else's work.

If you are unsure about what plagiarism is, or how to properly cite your sources, please speak to the Mathematics Librarian or the Undergraduate Senior Tutor. Note that these rules on plagiarism apply to all modules, including Horizons and i-Explore modules, regardless of whether or not they are being taken for credit.

4. Board of Examiners

The Board of Examiners for the Department consists of all of the Lecturers teaching in said year, the Year Tutors, Undergraduate Senior Tutor, Director of Undergraduate Studies, Deputy Heads and Head of Department.

External Examiners

(confirmed for 2022-23 as of start of September 2022 – any new appointments to be confirmed in 22-23)

Professor Peter Giesl, University of Sussex

Professor Eugene Lytvynov, University of Swansea

Dr Matthew Turner, University of Surrey

Professor Matthias Troffaes, Durham University

Professor Jason Lotay, University of Oxford

Professor Andrew Archer, Loughborough University

External examining acts as an essential part of the College's quality assurance and enhancement process, serving to ensure that academic standards are maintained. The knowledgeable and independent views of external examiners are invaluable in certifying that the College's awards are appropriate and comparable as well as highlighting good practice and potential areas of enhancement.

During your programme you may be invited to meet your external examiners to discuss how you have found the programme. It is not appropriate however, for you to seek to submit complaints or representations directly to external examiners or to seek to influence them other than by giving feedback in a meeting. Inappropriate communication towards an examiner would make you liable for disciplinary action.

A summary of External examiners reports from the previous academic year can be found here:



www.imperial.ac.uk/about/governance/academic-governance/academic-policy/external-examining/

5. G104 Programme

Co-ordinator for European Exchanges Professor Demetrios Papageorgiou:
d.papageorgiou@imperial.ac.uk

Co-ordinator for MIT Exchanges Dr Sheehan Olver: s.olver@imperial.ac.uk.

G104 Mathematics with a Year Abroad is a four-year Honours degree programme leading to an MSci qualification. Three years are spent in the Department of Mathematics at Imperial College and one year (the Third Year) at a host institution abroad.

Current Host Institutions for the Year Abroad (subject to change)

[ENSIMAG Grenoble, France](#)

[EPFL Lausanne, Switzerland](#)

[Humboldt Berlin, Germany](#)

[ETH Zurich, Switzerland](#)

[UAM Madrid, Spain](#)

[MIT, Cambridge, MA, USA](#)

For students going to host institutions in Europe: Suitable arrangements will be anticipated for the year away when a student is first accepted onto the course and more detailed planning will take place at the completion of the First Year programme. Every effort will be made to send a student to their country of choice but a particular host institution cannot be guaranteed.

Selection of students for MIT is competitive and takes place early in the second term of the second year of study. Places are limited (in the past few years only one exchange place was available) and due to this mark requirements for application are high.

Course Structure

There is no formal language requirement our Year Abroad degree, however applicants may be required to demonstrate a basic competence in a required language if going to one of our European partner universities.

These requirements are different to entry requirements, as you will often have the opportunity to work towards the necessary criteria in your time at university, up to the third year of this course.

As a guide a basic competency would equate to:

- A level Grade C
- AS Level Grade B
- GCSE Grade A

First and Second Years

G104 students follow the same mathematics modules as all other students, but normally take language classes in addition to the mathematics modules.

Students who are especially well prepared in the language for their proposed year of study away may exceptionally have the language module requirements waived. Students are required to register for their language module themselves.

Further information on the free language modules available at Imperial College London for G104 Mathematics with a Year Abroad students, and any pre-requisites which may be required, can be found online at:

www.imperial.ac.uk/languages/year-in-europe/

Note: Whilst G104 students must pass the language examinations at the end of First and Second Year in order to stay on G104, language examination results do not directly contribute to their mathematics degree Honours mark. Students who are required to take language to qualify for the year abroad programme must choose the language module to count as the required I-Explore module in the Second Year.

Third Year (Spent at a Host Institution)

Students will follow an approved set of modules at the host institution, where they will also be assessed. On their return, the achieved exam results will be converted to the Imperial scale. Details on the applied conversion procedure can be found on the Maths Central Blackboard page under Course Information, G104 information.

Fourth Year

Students will have a free choice of core modules and options from the list currently available - on the same basis as students registered on the MSci G103 Mathematics degree.

Pass Requirement and Assessment for Honours

In order to progress to the next level of study, students on the G104 programme must have passed all modules (equivalent to 60 ECTS) in the current level of study at first attempt, at resit or by a compensated pass.

In order for you to progress to the next year of the programme, the overall aggregate mark for the year, including where a module(s) has been compensated, must normally be as follows:

year 1: 40 percent

year 2: 60 percent

Satisfactory completion of a language requirement (Level 3 or above, as determined by the College's Centre of Languages, Culture and Communication) will normally be required for students spending their year abroad in a non-English speaking country. This will include in most cases, students being required to take and pass language modules at the College's Centre for Languages, Culture and Communication (or its equivalent elsewhere) in Years 1 and 2. Language modules taken do not count for Honours degree classification and are instead for pass/fail credit.

A student who is not permitted to remain on G104 for year 3 will be transferred to a BSc or MSci Mathematics degree.

Honours Degree classification:

Students who satisfy the degree requirements receive consideration for Honours in the normal way: First Class, Second Class (Upper and Lower Divisions).

Aggregate marks from each year will be combined with the following percentage weightings to produce an overall aggregate mark:

G104: Year 1 is weighted at: 7.5%, Year 2 is weighted at: 25%, Year 3 is weighted at: 25%, Year 4 is weighted at: 42.5%

Transfer between G104 and Other Degrees

Students who do not perform well at Second Year may be unable to spend their Third Year overseas and may be transferred to BSc G100 Mathematics.

Students who perform very poorly in their year away may be transferred onto the G100 degree and take Third Year subjects in their Final Year. This is a departmental decision – students may not choose this path.

Students who choose to transfer from MSci G104 Mathematics to a three year BSc degree will only be allowed to do so with the permission of the Department. This permission is not normally possible after undertaking study abroad.

Students on a BSc degree may be able to transfer into the MSci G104 Mathematics degree to go to Europe if they can satisfy the Department of their language skills and have good examination results. Normally such transfers will be considered at the end of the First Year of study. Students should make their interest known as early as possible. Transfer to the MIT Year Abroad programme is through selection only.

6. Location and facilities

Imperial has a number of campuses in London and the South East. All have excellent travel links and are easily accessible via public transport.

Your main location of study will be:

 **Huxley Building, 180 Queen's Gate**
South Kensington Campus, Imperial College London, SW8 2AX

Facilities

Huxley Building Guide

Below is a guide to rooms in the Huxley Building. Please note that staff will not always be found in their offices; please email in the first instance to arrange for a meeting or to make enquiries.

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| Level 1 | <p>Lecture Theatres/Classrooms: 130, 139, 140, 144 Tutorial/study room: 138*</p> <p>Lockers: Please see the Technical Services Manager (131) if you require a locker .</p> |
| Level 2 | <p>Lecture Theatres/Classrooms: Clore Lecture Theatre (213)</p> <p>Undergraduate Common Room: 212.</p> |
| Level 3 | <p>Lecture Theatres/Classrooms: 340, 341, 342</p> <p>Departmental Noticeboards</p> |
| Level 4 | <p>Computing Rooms: 408, 409 (for 4th Year students only), 410 and the Maths Learning Centre (MLC) (computer workstations/study spaces photocopiers/scanners/printers)</p> <p>The MLC also has three small tutorial rooms, noted as 413A/B/C on your Celcat timetables*</p> <p>Tutorial/study room: 411</p> <p>*Students may use any small tutorial/study rooms for personal study purposes when the rooms are not booked for tutorials. Similarly, the computing rooms are open for student study purposes unless booked for out lessons and tutorials. Please use other spaces on campus when rooms are booked for classes.</p> |
| Level 5 | <p>Academic Staff Offices, Staff Common Room</p> <p>Director of Undergraduate Studies: 547</p> |

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| | <p>Classrooms: 642, 658</p> <p>Departmental Administrative Offices</p> <p>Undergraduate Education Office: 649 (open Monday to Friday 10am-3.00pm)</p> <p>Undergraduate Senior Tutor: 657</p> <p>Undergraduate Liaison Officer: 632</p> <p>Student Experience Coordinator and Departmental Disabilities Officer: 654</p> <p>Central Office: 649a</p> <p>Academic Staff Offices</p> |
| Level 6 | |

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| Level 6M | Academic Staff Offices |
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| Level 7 | Academic Staff Offices |
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Facilities

Mathematics Learning Centre (MLC)

The Mathematics Learning Centre (level 4, Huxley Building) is a major space within the Department for individual and group study. Departmental computing workstations and printers and copiers are available for students to use. There are three side rooms in the MLC: MLC1, MLC2 and MLC3 (called 414A, 414B and 414C on your electronic calendars).

The MLC is at times used for teaching, and students are required to vacate the computer stations required for these sessions. During tests/exams for the modules, students may be asked to leave the MLC.

The side rooms in the MLC may be used for timetabled group tutorials. When not being used for timetabled activities, students are welcome to use them for group or individual study.

Other Computing Rooms

Departmental workstations are located in the Huxley Building in rooms 212, 408, 409 (for Fourth Year students only), 410 and the Maths Learning Centre (level 4, Huxley Building). 410 is designated as a silent study area. 408 and 410 are at times used for teaching purposes.

Maths Common Room (Huxley 212)

Huxley 212, next to the Clore, is a computing/common room for all Mathematics Undergraduate Students.

Students are reminded to be courteous to each other while using all of the rooms and are asked to not leave their personal possessions in the rooms while not in them.

Student Post

There are student post racks for 'regular' post only in the Maths Common Room, 212. These racks are cleared at the end of each academic year; please make sure you check the racks for any letters you may be expecting.

Any letters or documents issued by the Department of Mathematics, which aren't being posted or emailed, can only be collected from the Undergraduate Education Office. Photo ID and signature are required upon collection.

Lockers

Student lockers are situated on level 1 in the Huxley Building. Please see the Technical Services Manager (room 131, Huxley Building) if you require a locker.

At the start of the academic year, students should put a padlock on their chosen locker and then register their locker by completing a form found outside room 131. At the end of the academic year, students are required to remove their locks and empty their lockers. If this is not done, locks will be cut off and the locker contents will be disposed of.

Printing Credit

At the start of the academic year, the Department will provide Undergraduate students with £25 printing credit.

If you find that you need more credit, please see information on how to add more on:
<https://www.imperial.ac.uk/admin-services/ict/self-service/computers-printing/printing-photocopying-and-scanning/buy-credit/>

If you experience any problems with the Department issued printing credit, please contact ICT.

Letters

Students should contact the Student Hub and Registry for any official letters, for example

- Statement of Attendance letter
- Transcripts
- Confirmation of Degree Letter
- Visa letters/CAS
- Letter to open a bank account
- Council Tax exemption certificates

<http://www.imperial.ac.uk/student-records-and-data/for-current-students/request-an-official-document/>

Many of these can be downloaded from MyImperial directly.

If you require some other type of letter, please ask at the Undergraduate Education Office. Official transcripts can only be requested from Registry through the Student Hub.

To request a letter, students must complete an Undergraduate Letter Request form. These can be found online on Blackboard Maths Central (<https://bb.imperial.ac.uk>) under General Information.

Any letters or documents issued by the Department of Mathematics, which aren't being posted or emailed, will need to be collected from the Undergraduate Office. Photo ID and signature are required upon collection.

References

The Department of Mathematics is able to provide references for students.

- All references must be for a specifically named postgraduate course or job; the Department is not prepared to write open references
- Please consider your choices of programmes carefully – applications and references take time
- Please provide a statement explaining why you are applying for the courses or posts listed and attach a current CV, pre-award transcript (from MyImperial) and any relevant referee forms to your application
- References can take up to three weeks to prepare so please plan ahead; references cannot be provided at very short notice
- Referees may ask to see you before they provide a reference
- If you are applying to a number of postgraduate programmes, if possible, please try to ask for all references at the same time
- If your reference is being posted, you will receive an email (to your university email address if you are a current student) informing you when it has been sent.
References will be posted 2nd class
- If your reference is for collection, you will receive an email (to your university email address if you are a current student) informing you of your reference's availability and from where and when it can be collected
- If you want someone else to collect your reference(s) for you, you must send the Undergraduate Education Office (maths-student-office@imperial.ac.uk) an email from your university email account authorising the release of your reference(s) to the person named. The person collecting your reference(s) must bring their own picture ID with them for identification purposes

The person you ask to be your referee should be someone who knows you well enough to give a fair assessment of you. Normally your Personal Tutor will be the main person to write references for you but you may also approach a Year 4, 3, or 2 Project Supervisor or your Year Tutor. The Undergraduate Senior Tutor may also be approached.

Remember that we cannot respond to direct requests for references from third parties; we can only provide a reference for you if you make the initial request.

Please talk to your Personal Tutor for any help with questions, or contact the Undergraduate Liaison Officer.

The Reference Request Form can be printed from the Maths Central pages on Blackboard (<https://bb.imperial.ac.uk>) under General Information.

Library Services

The Central Library at South Kensington is open 24 hours for study space, and further space is available to all students in GoStudy on levels 4 and 5 of the Chemistry Building.

Make sure you find out who your subject librarian is as they'll be able to help you find books and online resources for your assignments. Also, don't forget to check out the Library's range of training workshops and our other campus libraries for access to specialist medicine and life sciences resources. You can borrow up to 40 books and, whether you're working on or off site, you'll be able to access e-books, e-journals and databases from our collection of almost 400,000 titles. If we don't have what you need, we can get it for you, simply ask us to buy it or request a copy through our free Document Delivery service.

For any questions our staff will be happy to help, simply chat with us online or contact us via email, phone or social media, just check our website for details:



Key Library Staff for the Department of Mathematics:

- Liaison Librarian (Ms A. Brew): ann.brew@imperial.ac.uk

Ann Brew can support students with research skills and referencing. You can book individual appointments with her and she also runs workshops in the department at key points in the year.

Shuttle bus

A free shuttle bus runs between our South Kensington, White City and Hammersmith Campuses on weekdays. Seats are available on a first-come, first-served basis. You need to show your College ID card to board. You can download the timetable and check the latest service updates at:



Maps

Campus maps and travel directions are available at:



Accessibility

Information about the accessibility of our South Kensington Campus is available online through the AccessAble access guides:



Smoke-Free Policy

All Imperial campuses and properties are smoke-free. This means that smoking by staff, students or visitors is not permitted on or within 20 metres of College land. The policy covers all College properties, including student accommodation and sports grounds.



SafeZone

SafeZone is a College app through which you can quickly and directly contact the Security team whenever you need them. Whether you're in an emergency situation, in need of First Aid or want to report an incident on campus, SafeZone allows you to be immediately put in touch with a member of our Security team and, at the touch of a button, can share your location and personal profile so that they can respond quickly and effectively to your specific needs. It also allows the entire College community to stay informed in the event of a major incident in London or wherever you may be in the world. Safezone also provides information on other services, such as real-time updates on the College shuttle bus.



SafeZone

SafeZone is optional to register for and is now available to download on the Apple and Android App stores. Visit www.imperial.ac.uk/estates-facilities/security/safezone/ for more details about SafeZone.

All existing phone numbers for the Security team are still operational. In the event of an emergency, you can still call 4444 from any internal College phone. In the event of a wider incident in London, you can now also call 0300 131 4444, Imperial's Emergency Recorded Message Line, which will point you in the direction of up-to-date information and advice.

Changes due to Coronavirus (COVID-19)

The College will keep you informed about any further changes that may affect you due to the impact of coronavirus (COVID-19). The COVID-19 FAQs on the website are a repository of helpful information and the latest guidance can be found at:

-  www.imperial.ac.uk/about/covid-19/

7. Working while studying

If you are studying full-time, the College recommends that you do not work part-time during term time. If this is unavoidable we advise you to work no more than 10–15 hours per week, which should be principally at weekends and not within normal College working hours.

Working in excess of these hours could impact adversely on your studies or health.

If you are here on a Tier 4/Student Route visa you can work no more than 20 hours a week during term time. Some sponsors may not permit you to take up work outside your studies and others may specify a limit.

If you are considering part-time work during term time you are strongly advised to discuss this issue with your Personal Tutor. If you are on a Tier 4/Student Route visa you should also seek advice from the International Student Support team regarding visa limitations on employment.

The College's examination boards will not normally consider as mitigating circumstances any negative impact that part-time work during term-time may have had on your performance in examinations or in other assessed work. Examinations or vivas cannot be rescheduled to accommodate your part-time working arrangements.

8. Health and Safety

Keeping you safe is a top priority for us. Since 1 April 2022, the UK Government removed all Covid-19 restrictions on public areas, including Universities and education settings. Imperial College still encourages students to wear face coverings in crowded areas, to stay at home if you have symptoms of respiratory disease, to get fully vaccinated, to cover your coughs and sneezes, and to respect others' personal space.

The latest Imperial College guidance to students can be seen at:

 www.imperial.ac.uk/about/covid-19/students/

The College's Health and Safety Policy can be found at:

 www.imperial.ac.uk/safety/safety-by-topic/safety-management/health-and-safety-policy-statement/

Your Departmental safety contact is:

 Martin Cooper

 Huxley 131

 020 7594 8544 (internal: 48544)

 m.cooper@imperial.ac.uk

You may be required to complete inductions and attend training sessions to safely complete this course. This includes an online Health and Safety training module to be completed in the first week of the Autumn Term.

The College Safety Department

The Safety Department offers a range of specialist advice on all aspects of safety. This includes anything which you feel might affect you directly, or which may be associated with teaching, research or support service activities.

The College's activities range from the use of hazardous materials (biological, chemical and radiological substances) to field work, heavy or awkward lifting, driving, and working alone or late.

All College activities are covered by general health and safety regulations, but higher risk activities will have additional requirements.

The Safety Department helps departments and individuals ensure effective safety management systems are in place throughout the College to comply with specific legal requirements.

Sometimes the management systems fail, and an accident or a near-miss incident arises; it is important that we learn lessons from such situations to prevent recurrence and the Safety Department can support such investigations. All accidents and incidents should be reported online at:

 www.imperial.ac.uk/safety

To report concerns or to ask for advice you should contact your programme director, academic supervisor or departmental safety officer in the first instance. You may also contact the Safety Department directly.

Occupational Health requirements

The College Occupational Health Service provides services to:

- protect health at work
- assess and advise on fitness for work
- ensure that health issues are effectively managed

The Service promotes and supports a culture where the physical and psychological health of staff, students and others involved in the College is respected, protected and improved whilst at work.



www.imperial.ac.uk/occupational-health

9. College Policies and Procedures

Regulations for Students

All registered students of the College are subject to the College Regulations. The relevant set of regulations will depend on your programme and year of entry, please see our Regulations webpage to determine which apply to you:

-  www.imperial.ac.uk/about/governance/academic-governance/regulations
-  www.imperial.ac.uk/students/terms-and-conditions

Academic Feedback Policy

We are committed in providing you with timely and appropriate feedback on your academic progress and achievement, enabling you to reflect on your academic progress. During your study you will receive different methods of feedback according to assessment type, discipline, level of study and your individual need. Further guidance on the Policy of Academic Feedback can be found on the Academic Governance website:

-  www.imperial.ac.uk/media/imperial-college/administration-and-support-services/registry/academic-governance/public/academic-policy/academic-feedback/Academic-feedback-policy-for-taught-programmes.pdf

Please note that your examination scripts once completed belong to the College under the GDPR legislation. Please see the College GDPR webpages for further information at:

-  www.imperial.ac.uk/admin-services/secretariat/information-governance/data-protection/internal-guidance/guide-2---exam-records/

Provisional Marks Guidance

Provisional marks are agreed marks that have yet to be ratified by the Board of Examiners. These results are provisional and are subject to change by the Board of Examiners. The release of provisional marks is permitted except in certain circumstances. Further information can be found in the Guidelines for Issuing Provisional Marks to Students on Taught Programmes:

-  www.imperial.ac.uk/media/imperial-college/administration-and-support-services/registry/academic-governance/public/academic-policy/marketing-and-moderation/Guidelines-for-issuing-provisional-marks-to-students-on-taught-programmes.pdf

Late Submission Policy

You are responsible for ensuring that you submit your coursework assessments (including time remote assessments) in the correct format and by the published deadline (date and time). Any piece of assessed work which is submitted beyond the published deadline (date and time) would be classed as a late submission and will incur a penalty (a cap at the pass mark, or it is classed as a fail). Further guidance on Late Submission of Assessments can be found on the Academic Governance website:

-  www.imperial.ac.uk/media/imperial-college/administration-and-support-services/registry/academic-governance/public/academic-policy/marketing-and-moderation/Late-submission-Policy.pdf

If you submit late due to mitigating circumstances, you may be able to make a claim that means that the cap on your mark is lifted. Please see below and the policy document.

Mitigating Circumstances

During your studies you may be affected by sudden or unforeseen circumstances. You should always contact your personal tutor for advice and support. If this happens at the time of, or immediately preceding your assessments you may be able to make a claim for mitigating circumstances. If successful this claim enables the Board of Examiners when reviewing your marks at the end of the year to have greater discretion with regards to offering repeat attempts (either capped or uncapped), a repeat year, or with your progression or final classification. Please note, the Board are not permitted to amend the marks that you were awarded, only to take your claim into account making decisions.

All claims must be supported by independent evidence and submitted within 10 working days of the assessment deadline. Any claim made after this deadline is likely to be rejected unless there is a good reason (such as you were still unwell) until the point of submitting the claim. Details of the College's Mitigating Circumstances procedure can be found under the Mitigating Circumstances tab on the page below:

-  www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/

Through the procedure you may also be able to request an extension deadline to some forms of assessment. Wherever possible it is expected that this is used as it will enable you to complete your studies within the same College year (rather than over the summer holiday or in the next year).

Support for ongoing or long-term conditions, or for registered disabilities would not normally fall under the remit of mitigating circumstances and students should be supported through their studies with additional examination arrangements. More details can be found at:

-  www.imperial.ac.uk/disability-advisory-service/current-students/support-available/adjustments-and-support/

Academic Misconduct Policy and Procedures

As has been highlighted under the Academic Integrity section, it is important that you learn how to properly attribute and acknowledge the work, data and ideas of others. Any proven form of academic misconduct is subject to penalties as outlined in the College's Misconduct Policy and Procedures.

-  www.imperial.ac.uk/about/governance/academic-governance/academic-policy/exams-and-assessment/

Unsatisfactory Engagement

Unfortunately, sometimes students struggle to make satisfactory progress in their study or their engagement with their studies falls below our expectations. The College has a process to identify and support students by reaffirming these expectations with an action plan. If a student does not engage satisfactorily engage with these supportive measures, they can be withdrawn from their studies. The full details of this process, and the appeals procedure relating to it can be found at:

-  www.imperial.ac.uk/about/governance/academic-governance/academic-policy/complaints-appeals-and-discipline

Academic Appeals Procedure

We have rigorous regulations in place to ensure assessments are conducted with fairness and consistency, claims for mitigating circumstances have been considered reasonably and in line with the regulations of the College, and that the decisions of the Boards of Examiners maintain the integrity of our academic awards. Should you believe that you have grounds to appeal these decisions, we have laid out clear and consistent procedures through which appeals can be investigated and considered:

-  www.imperial.ac.uk/about/governance/academic-governance/academic-policy/complaints-appeals-and-discipline

Arithmetic Marks Check

If you consider that there may have been an error in the adding up of your marks, you may request an arithmetic mark check. Please note that this must be requested within 10 working days of the official notification of your results from the Results team in Registry. You may not request a marks check for a previous year of study. Please note that a marks check is not a remark of your work, but an administrative check that the marks have been accurately recorded.

Student Complaints

The College strives to ensure that all students are well supported in their studies and receive a good experience of their programme and the wider College activities. If you feel that your experience has not lived up to these expectations the College has an agreed Students Complaints process through which your concern can be investigated and considered.

If you have any concerns about your experience at the College and have been unable to address these informally, you should contact Student Complaints who can provide advice about what is the appropriate way to seek to resolve this at:

-  student.complaints@imperial.ac.uk
-  www.imperial.ac.uk/about/governance/academic-governance/academic-policy/complaints-appeals-and-discipline

Student Disciplinary Procedure

The College has the right to investigate any allegation of misconduct against a student and may take disciplinary action where it decides, on the balance of probabilities, that a breach of discipline has been committed. The Procedure is currently under review and will be updated during the 2022-23 academic year. The general principles of the Student Disciplinary Procedure are available on the College website:

-  www.imperial.ac.uk/about/governance/academic-governance/academic-policy/complaints-appeals-and-discipline/

Intellectual Property Rights Policy

For further guidance on the College's Intellectual Property Rights Policy is available on the College website:

-  www.imperial.ac.uk/research-and-innovation/about-imperial-research/research-integrity/ip/

Further information about the Imperial Enterprise Lab can be found at:

-  www.imperial.ac.uk/students/enterprising-students/
-  www.imperialenteriselab.com/support/experts-in-residence

Use of IT Facilities

View the Conditions of Use of IT Facilities:

-  www.imperial.ac.uk/admin-services/ict/self-service/computers-printing/conditions-of-use-of-it-resources/

General Data Protection Regulation (GDPR)

All staff and students who work with personal data are responsible for complying with GDPR. The College will provide support and guidance but you do have a personal responsibility to comply.

In line with the above please see the College's privacy notice for students which form part of the terms and conditions of registration with the College.

-  www.imperial.ac.uk/media/imperial-college/administration-and-support-services/registry/academic-governance/public/academic-policy/admissions/Privacy-Notice-for-Students-and-Potential-Students.pdf

10. Wellbeing, support and advice

In your department

Your department has a system of academic and pastoral care in place to make sure you have access to the appropriate support throughout your time at Imperial.

The Mathematics Department has a system of academic and pastoral care in place to make sure you have access to the appropriate support throughout your time here. This includes:

Personal Tutor

Your Personal Tutor is your first point of contact for pastoral support and advice. You can arrange to have a meeting with them at any time during your studies (although most Personal Tutors will have set office hours or may require you to make an appointment).

If necessary, they will direct you to an appropriate source of support.

First Year students will have meetings with their Personal Tutors in a small group with other students to discuss the programme as a whole as well as individual meetings per term. However, students should not feel that these are the only times they can meet with their Personal Tutor if they have any academic or personal concerns they would like to discuss.

In Second, Third and Fourth Years, meetings with Personal Tutors will be less frequent, but students should always feel free to contact their Personal Tutor with any issues. During 'Meet Your Personal Tutor Weeks', meeting with your Personal Tutor is compulsory.

It is important that Personal Tutors get to know their students well, so they can intervene early if something goes wrong academically or otherwise. Personal Tutors are normally experienced academics and they can become very important supporters. Ideally, a personal bond develops as students and their Personal Tutors meet on a regular basis and Personal Tutors witness the student's academic development as they mature intellectually. Keeping Personal Tutors informed about academic and personal development will also enable them to write convincing, supportive references.

If, for whatever reason, students have concerns about their Personal Tutor, they should notify their Year Tutor or the Undergraduate Liaison Officer.

Year Tutors

Year Tutors provide assistance both to individual students within their year group as well as to issues which might affect the year group as a whole.

Year Tutors should be contacted by individual students if they have an academic or personal issue they would like to discuss and their Personal Tutor is unavailable. They should also be contacted if you have missed an assessed work deadline, or know in advance that you will miss one due to mitigating circumstances.

Undergraduate Senior Tutor

The Undergraduate Senior Tutor is available to help if Personal Tutors or Year Tutors do not feel qualified to advise a student on a particular matter. They also act as an intermediary between the student and the College where the student is experiencing problems.

Undergraduate Liaison Officer

The Undergraduate Liaison Officer works closely with the Director of Undergraduate Studies, the Undergraduate Senior Tutor and Year Tutors. Students will be able to

approach the Undergraduate Liaison Officer in confidence to discuss any concerns they may have and, if necessary, they will be directed to the most appropriate people in the Department and/or College with whom to speak.

Student Experience Coordinator

A part of the Student Experience Coordinator's remit is to work closely with the Undergraduate Wellbeing Reps and other student leaders on student wellbeing and community activities. They also work with the outreach team and may train student leaders for departmental activities. The Student Experience Coordinator is also the Departmental Disabilities Officer.

Faculty Student Wellbeing Advice Team

The Faculty Student Wellbeing Advice Team can help provide you with general guidance on managing your wellbeing and can talk with you about wellbeing-related concerns that you would like to discuss in relation to your studies.

The team are here to support all students within the Faculty and the support we offer is tailored to your individual circumstances.

What can you expect from an appointment with an adviser?

The Student Wellbeing Adviser can offer a confidential one-to-one guidance meeting to discuss your situation. We will meet with you to talk through your initial concerns and agree next steps.

The meeting is a time to reflect on your wellbeing. It is also an opportunity to:

- Receive relevant information to assist with your query
- Access support with setting wellbeing-related goals
- Be introduced to wellbeing self-help resources
- Discuss where to go for further support

We are here to support you in fulfilling your potential during your time at Imperial.

You can find out more and self-refer to our service via our webpage at
<https://www.imperial.ac.uk/natural-sciences/education-and-teaching/wellbeing-support/resources-for-students/advice-team/>



Please note: If you are experiencing a crisis or think you may need urgent support, find out who to contact via the [Student Support Zone crisis support webpages](#).

Mums and Dads scheme

Imperial College Union's 'Mums and Dads' scheme matches first years with returning students in your department to help you tap into their experience and find peer support available from existing students.

-  www.imperialcollegeunion.org/mums-dads

Departmental Disability Officers

Departmental Disability Officers are the first point of contact in your department for issues around disability. They can apply for additional exam arrangements on your behalf and will facilitate support within your department.

Your Departmental Disability Officer is Ms Sai Nathan – s.nathan@imperial.ac.uk

More information on Departmental Disability Officers is available at:

-  hwww.imperial.ac.uk/disability-advisory-service/about-us/departmental-disability-officers/

More information about how to request additional arrangements for exams if you have a disability is available at:

-  www.imperial.ac.uk/student-records-and-data/for-current-students/undergraduate-and-taught-postgraduate/exams-assessments-and-regulations/additional-exam-arrangements-in-respect-of-disability

In your hall of residence

If you're staying in College accommodation you will have access to a range of support within your hall.

All halls have a Hall Warden team who are responsible for looking after your wellbeing and maintaining a friendly living environment so that all residents can study, sleep, relax and enjoy themselves. They are on call every day outside of College business hours to provide support in emergencies occurring in your hall.

They also play an important part in the social life of the hall, organising a rolling programme of events to bring everyone together. Your rent includes a contribution towards your halls activity fund.

The team includes returning students, known as Hall Seniors, who can offer first-hand advice about making the most of life at Imperial.

Each hall also has a Hall Supervisor or a Reception team who oversee the day-to-day running of the residence. So, if you have any enquiries or want to report a maintenance issue there are people on hand to help you.

More information and the latest guidance around accommodation can be found at:

-  www.imperial.ac.uk/study/campus-life/accommodation

Your Union

All Imperial students automatically become members of Imperial College Union when they register at the College. The Union provides a range of independent support.

Imperial College Union Advice Centre

The ICU Advice Service delivers free, confidential, and impartial advice covering academic issues, complaints and disciplinaries, College accommodation, and internal and external signposting. Contact advice@imperial.ac.uk and complete the registration form to speak with a member of the team



www.imperialcollegeunion.org/advice

Student representatives

Imperial College Union operates two Representation Networks of over 600 elected student representatives – the Academic Representation Network and the Wellbeing Representation Network. Reps represent the voice of students and can direct you to internal and external support services. The Union's Liberation Officers also work to make sure that the views of under-represented and interest groups are heard at the College.

If you have any feedback about issues in your department relating to academic or wellbeing issues, you can speak to one of your student representatives.



www.imperialcollegeunion.org/your-union/your-representatives/a-to-z

Officer Trustees

The Union is led by a team of Officer Trustees who are elected every year by the students of Imperial College. They take a year out of their studies and work full-time at the Union, representing the voices of students in the Union, the College and the wider community.

The Officer Trustees represent students in a variety of roles, including Education, Welfare, Finance & Service and Clubs & Societies. These elected students are here to represent your views as a student body do make sure you get in touch with them if there's something you would like to discuss or change.

Student Hub

At the Student Hub, you can access advice about accommodation, admissions and financial support and get help with international student enquiries, questions about student records, exams and the Undergraduate Research Opportunities Programme (UROP).



www.imperial.ac.uk/student-hub

Student Support Zone

Student Support Zone has lots of information about the resources available at Imperial and beyond to help you to stay healthy and happy. It's a great place to start when you're looking for some support – it covers advice about housing and money, health, wellbeing and maintaining a good work-life balance, and provides the details of who you can contact if you need some extra support.



www.imperial.ac.uk/student-support-zone

Useful support contacts

Health and wellbeing

If you have moved home to take up your place at Imperial you will need to register with a new doctor (also known as a General Practitioner or GP) so that you can access NHS healthcare. It's important that you register with a doctor soon after you arrive – don't wait until you are sick, as this could delay your access to treatment.

Imperial College Health Centre

-  40 Prince's Gardens, South Kensington Campus
-  020 7584 6301
-  imperialcollege.hc@nhs.net
-  www.imperialcollegehealthcentre.co.uk

Imperial College Dental Centre

-  Prince's Gardens, South Kensington Campus
-  020 7589 6623
-  www.imperialcollegedental.co.uk

Student Counselling and Mental Health Advice Service

-  020 7594 9637
-  counselling@imperial.ac.uk
-  www.imperial.ac.uk/counselling

Multi-Faith Chaplaincy Service

-  Chemistry Building, South Kensington Campus
-  chaplaincy@imperial.ac.uk
-  www.imperial.ac.uk/chaplaincy

Disability Advisory Service

-  Room 566, Level 5, Sherfield Building, South Kensington Campus
-  020 7594 9755
-  disabilities@imperial.ac.uk
-  www.imperial.ac.uk/disability-advisory-service

International students' support

Centre for Academic English

-  Level 3, Sherfield Building, South Kensington Campus

 english@imperial.ac.uk

 www.imperial.ac.uk/academic-english

International Student Support team

 020 7594 8040

 www.imperial.ac.uk/students/international-students/

Careers

Careers Service

 Level 5, Sherfield Building, South Kensington Campus

 020 7594 8024

 [careers@imperial.ac.uk](mailto:ccareers@imperial.ac.uk)

 www.imperial.ac.uk/careers

ICT and software

ICT Service Desk

 Central Library, South Kensington Campus

 020 7594 9000

 www.imperial.ac.uk/ict/service-desk

Software shop

 www.imperial.ac.uk/admin-services/ict/self-service/computers-printing/devices-and-software/

11. Student Administration

The Student Administration Team are responsible for the administration and maintenance of the student records for all students studying at the College. This includes enrolments, programme transfers, interruption of studies, withdrawals and processing of examination entry for research degree students. The team also use this information to fulfil reporting duties to the Student Loans Company, Transport for London and the UKVI, as well as other external bodies.

The Team is responsible for the processing of student results and awards on the student record system as well as the production and distribution of academic transcripts and certificates of award.

The Student Administration Team produce a variety of standard document requests for both current and previous students including council tax letters, standard statements of attendance and confirmation of degree letters.

Student Records

 +44 (0)20 7594 7268

 student.records@imperial.ac.uk

Degree Certificates

 +44 (0)20 7594 7267

 certificates@imperial.ac.uk

12. Work-life balance

The pace and intensity of study at Imperial can be demanding so it's important to find time for outside interests.

Imperial College Union

The Union's range of 360+ student-led clubs, societies and projects is one of the largest of any UK university, opening up lots of ways for you to enjoy your downtime.

 www.imperialcollegeunion.org/about-us

Move Imperial

Imperial College has a wide range of sports and activities on offer that cater for all experience levels and abilities. We have a recreational activity offer, competitive sports teams and an elite sport programme. We are dedicated to ensuring we have a diverse, inclusive and exciting offer for all.

More information about Imperial student memberships and updates to our services can be found at:

 www.imperial.ac.uk/ethos/memberships/students/

With an annual fee of £35 you will get use of the gym and swimming facilities on our campuses. More information about Imperial student memberships and updates to our services can be found at:

 www.imperial.ac.uk/sport

We have a huge collection of online resources, home workout videos, healthy recipes and playlists available to all as part of our MoveMore campaign, more information can be found at:

 www.imperial.ac.uk/sport/move-more/

Maths activities outside the Curriculum

The Mathematics Society (MathSoc)

The Mathematics Society (MathSoc) plays an important part in the Department and arranges events for students and staff, including parties, outings, special lectures and careers events. Information is emailed to students and more information can also be found on the MathSoc website: <https://www.union.ic.ac.uk/rcsu/mathsoc/>

The Undergraduate Colloquium

The Undergraduate Colloquium was initiated by students in 2012-2013 as a weekly lecture series where undergraduate students could present their research (e.g. UROP/projects/other independent research) to other undergraduates and members of the Department.

PLUS!

PLUS! is an interactive problems group that meets at regular intervals throughout Term 1 and Term 2. All students are welcome to turn up and leave as and when they wish. PLUS! problem sheets can be found on the Maths Central Pages of Blackboard under Student Life (<https://bb.imperial.ac.uk>).

Women in Maths

Women in Maths is a student led group focused on celebrating diversity and inclusion within the Imperial College Mathematics department, through the various events they run throughout the year for students such as bi-weekly talks from academics and alumni. If you would like to get in touch, you can either email us directly via womeninmaths@imperial.ac.uk or get in contact via our Instagram Page: https://www.instagram.com/ic_wim/.

Other

Other events such as wellbeing teas and research and inspirational talks by academics take place regularly. Information and invites are sent out by email and posters may be posted around the Department

13. Student feedback and representation

Feedback from students

The College and Union is committed to continually improving your education and wider experience and a key part of this is your feedback. Feedback is thoroughly discussed by your student representatives and staff.

Within the Department, Module Lecturers are keen to receive feedback on the pace and content of their modules. This is best done by a question or comment at the time or immediately after a class if attending on campus, or via the online forums, or the office hours, but in other cases this can be done through Student Year Representatives or the Student Departmental Representative. Third- and fourth-year modules should also have a module representative who can act as a point of contact between students and lecturer. Constructive comments and suggestions should be made in good time, in order to benefit the current year as well as following years.

The Undergraduate Liaison Officer, Undergraduate Senior Tutor and Director of Undergraduate Studies may also be approached to provide feedback on the programme. Please contact the Undergraduate Liaison Officer for any general feedback.

Student representation

Student Representatives are recruited from every department to gather feedback from students to discuss with staff. More information about the role, and instructions on how to become an academic representative, are available on the Imperial College Union website.

-  www.imperialcollegeunion.org/your-union/your-representatives/academic-representatives/overview

Staff-Student Committee

Staff-Student Committees are designed to strengthen understanding and improve the flow of communication between staff and students and, through open dialogue, promote high standards of education and training, in a co-operative and constructive atmosphere. College good practice guidelines for staff-student committees are available here:

-  www.imperial.ac.uk/about/governance/academic-governance/academic-policy/student-feedback

The Departmental Representatives for Maths for 2022-23 are:

Academic: Xialu Zheng

Email: xialu.zheng21@imperial.ac.uk

Wellbeing: Christine Zhang

Email: christine.zhang19@imperial.ac.uk

Year Rep information for Mathematics can be found on the Maths Central Pages of Blackboard under Course Information (<https://bb.imperial.ac.uk>).

The Department of Mathematics has an active Staff/Student Committee that normally meets twice in Terms 1 and 2 and once in the summer term (term 1 may only have one meeting depending on when elections take place). The Committee reviews by academic and wellbeing issues; discussing various academic matters to do with the structure and operational running of the courses, as well as staff/student social interaction and wellbeing initiatives.

Minutes of the meetings are posted on Blackboard Maths Central.

14. Student Surveys

Your feedback is important to your department, the College and Imperial College Union. Whilst there are a variety of ways to provide feedback on your College experience, the following surveys give you regular opportunities to make your voice heard:

- **Module Evaluation Questionnaire (MEQ)**

The MEQ is your chance to tell us about the modules you have attended, including your BPES, Horizons and I-Explore modules. The questionnaire is open to students across all years of study and runs at the end of the autumn, spring and summer terms.

- **Student Experience Survey (SES)**

The SES is an annual survey which aims to gather feedback on a range of College services and on Imperial College Union. The survey seeks to understand your opinions on life at the College beyond lecture theatres or labs. The survey is open to all non-final year undergraduate students and runs across the autumn and spring terms.

- **National Student Survey (NSS)**

The NSS is an annual survey which asks respondents to rate a range of elements related to their student experience such as academic support, learning resources and assessment and feedback. The survey is open to final year undergraduates at participating UK institutions and runs in the spring term. Results of this national survey are made publicly available.

All surveys are confidential. The more you take part, the more representative the results so please take a few minutes to give your views.

The Union's "You Said, We Did" campaign shows you some of the changes made as a result of survey feedback:



www.imperialcollegeunion.org/you-said-we-did

The Union's response to surveys can be found here:



www.imperialcollegeunion.org/your-union/your-representatives/responses

If you would like to know more about any of these surveys or see the results from previous surveys, please visit:



www.imperial.ac.uk/students/academic-support/student-surveys/uq-student-surveys/

15. And finally

Prizes

Each year prizes, both from the Department of Mathematics and external bodies, are awarded for good examination performances and outstanding projects. The Department also nominates students for College and prestigious national awards, in which they are often successful. More information on Prizes can be found on Maths Central.

A reception for award winners is usually held on Commemoration (Graduation) Day.

Alumni services

When you graduate you will be part of a lifelong community of over 190,000 alumni, with access to a range of alumni benefits including:

- discounts on further study at the College and at Imperial College Business School
- alumni email service
- networking events
- access to the Library and online resources
- access to the full range of careers support offered to current students for up to three years after you graduate
- access to our Alumni Visitor Centre at the South Kensington Campus, with free Wi-Fi, complimentary drinks, newspapers and magazines, and daytime left luggage facility

Visit the Alumni website to find out more about your new community, including case studies of other alumni and a directory of local alumni groups in countries across the world.

 www.imperial.ac.uk/alumni

Graduation

Information about Commemoration (Graduation) ceremonies can be found online at:
<http://www.imperial.ac.uk/graduation/>

Upon graduation, Department of Mathematics graduates are eligible for associateship of the Royal College of Science (ARCS): <http://www.rcsa.org.uk/> and membership of the Institute of Mathematics and its Applications (IMA): <http://www.ima.org.uk/>.

Opportunities for further study

After you have completed your mathematics degree, you may choose to continue your studies at the Masters or PhD level or enter the graduate job market. Previous graduates have gone on to graduate level study across the UK and abroad and entered a variety of fields of industry. You can read more about places our graduates go on the Careers Service website:

<https://www.imperial.ac.uk/careers/plan-your-career/destinations/>

Postgraduate Courses and Research in Mathematics

Postgraduate work in mathematics is divided between advanced courses, which normally extend over about one year and lead to the degree of MSc, and research studies that normally extend over a period of up to about three years and lead either to the degree of MPhil or more usually to that of PhD. An important aspect of the structure of the Department is that it consists of several sections: Applied Mathematics and Mathematical Physics, Pure Mathematics, Statistics, Mathematics and Finance. The sections have their own thriving research activities and also give a valuable framework for teaching activities at all levels.

The Department offers the following postgraduate courses and research programmes:

Taught Masters programmes (MSc):

- Applied Mathematics (Programme Director: Dr O. Schnitzer)
- Pure Mathematics (Programme Director: Dr Travis Schedler)
- Statistics (Programme Director: Dr O. Ratmann)
- Mathematics and Finance (Programme Director: Dr A. Jacquier and Dr E Neumann)

MRes/PhD programme:

Mathematical Sciences, with streams in Stochastic Processes and Finance, Statistical Pattern Recognition and Scientific Computing.

Centres for Doctoral Training (CDT) which offer MRes/PhDs:

- [CDT in the Mathematics of Planet Earth](#) (Contact: Professor D Crisan)
- [CDT in London School of Geometry and Number Theory](#) (Contact: Professor A. Corti)
- [CDT in Fluid Dynamics across Scales](#) (Contact: Professor D. Papageorgiou)
- [CDT in Financial Computing & Analytics](#) (Contact: Dr M. Pakkanen)
- [CDT in Mathematics of Random Systems](#) (Contact: Dr T. Cass)
- [CDT in Modern Statistics and Statistical Machine Learning](#) (Contact Professor A. Gandy)

PhDs:

Dr Ryan Barnett – Postgraduate Director

Dr Gunnar Pruessner – PG Tutor (Welfare)

Section PGR Tutor:

- Professor Nick Jones (Applied)
- Professor Igor Krasovsky (Pure)
- Dr Nikolas Kantas (Statistics)
- Professor Harry Zheng (Mathematical Finance)

Further information on post graduate study can be found online at:

<http://www.imperial.ac.uk/mathematics/postgraduate/>