IMPERIAL

Faculty of Natural Sciences

Department of Mathematics

Student Handbook

2024–25

Contents

Welcome to Imperial

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.

Imperial provides 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.

You'll have access to an innovative range of professional development courses within the Early Career Researcher Institute throughout your time here, as well as opportunities to meet students from across the College at academic and social events – see page 6 for more information.

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.

As one of the best universities in the world, we are committed to inspiring the next generation of scientists, engineers, clinicians and business leaders by continuing to share the wonder of what we do through public engagement events. Postgraduate students, alongside our academics and undergraduate students, make a significant contribution to events such as our annual Imperial Festival and our term-time Imperial Fringe events – if you're interested in getting involved then there will be opportunities for you to do so.

Our Principles

In 2012 Imperial and Imperial College Union agreed 'Our Principles'. This series of commitments was developed by academic and support staff in partnership with undergraduate and postgraduate students and Imperial College Union.

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 university 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 university.
- 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.

Welcome from the Early Career Researcher Institute

Welcome to Imperial and to the Early Career Researcher Institute!

The Early Career Researcher Institute works closely with Imperial College Union to enhance your experience and to ensure that when decisions are being made which affect your time at the university, your voice is heard.

Another important aspect of our role is to provide you with a free and exciting programme of professional development opportunities, delivered through a range of modes, so you can access these wherever you are in the world.

Our staff have a variety of research and other career experiences. Our professional development opportunities are designed to support you as you progress through your programme, but also to help you improve your personal impact, and be prepared for your chosen career, whether that is within academia, industry, government or something completely different!

Importantly, by attending our courses and workshops, you will meet students from other academic departments, enabling you to start building your research connections. We also deliver exciting competitions throughout the year which are an opportunity to broaden your knowledge as well as to have some fun!

Our primary way to communicate with you will be through our monthly e-newsletter and our weekly professional skills email bulletins. However, do check our website, blog and social media platforms to keep up to date with all the latest activities available to you.

Finally, Imperial is an extremely exciting, stimulating and diverse environment in which to work, to study and to research. Do make the most of all that the university and your programme has to offer.

Please note that the Early Career Researcher Institute was formerly known as the Graduate School. We are working hard to update all our resources with our new name, so please bear with us as we continue to work through this task. For now, you can find out more about us via the website:

 www.imperial.ac.uk/students/academic-support/graduate-school/

Introduction from the President of Imperial College Union

Welcome to Imperial! To begin with, a huge congratulations on joining us here at Imperial– this is where you belong! This is a globally renowned institution and offers much more than just the degree you are looking to leave with. You will come across countless opportunities and meet an array of compelling people amongst your peers, accomplished academics and the wider university community. Imperial attracts the best talent from around the world - making it here is already a testament to your academic zeal and ambitious character. Now, what you make of your experience at Imperial has the potential to shape your future.

Being located in London is a true perk of being an Imperial student. Right on our west London doorstep are landmark museums and iconic venues, including the Royal Albert Hall which has hosted Imperial graduations for over 60 years. Beyond our campuses, the city has something for everyone; be that the West End, sporting arenas or diverse cuisines. I strongly encourage you to explore where and when you can – London is a fantastic place for your university memories to call home.

You will likely have chosen to come to Imperial for its academic reputation as an outstanding university, and it will deliver on this. The facilities for research and your learning are terrific. To accompany this, there are hundreds of student-led societies and events available to you outside of your degree. These are overseen by your students' union – Imperial College Union. The Union is led by students, for students. The four deputy presidents and I have all been democratically elected to work full time on improving your student experience at Imperial. We have a large team of permanent staff behind us, running the many functions of the Union such as supporting clubs and training student representatives.

The Union also runs the Advice Service, 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. For many, this stage presents itself with newfound freedom and control over what you do. As daunting as it may seem, take advantage of it! Immerse yourself in your degree, your extra-curricular activities and in the connections you make.

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.

Wishing you an incredible year ahead, Camille Boutrolle

Imperial College Union President 2024-25

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

1. Introduction to the Department

Welcome from Head of Department

Dear MSc Student,

Welcome to Imperial and welcome to the Department of Mathematics!

We are a diverse and world-leading research centre and a fantastic place to study – and I am delighted that you are joining us. You will be taught by outstanding academics, that themselves produce exciting new research in their fields.

I encourage you to take full advantage of the extensive resources and vibrant community that our department, Imperial and London have to offer.

Best wishes,

Professor Axel Gandy

Welcome from Director of Taught PG Studies

Dear New MSc students,

A warm welcome to the department of Mathematics at Imperial College London. We are very excited as a Department that you are joining us. Through the hard work of staff and former students we have established MSc degree programmes that we hope you will be proud to be part of.

The department is here to help you make the most of your postgraduate studies. This handbook contains a wealth of useful information about your MSc programme — please do read it and keep a copy to hand to help you during your studies.

Engaging in discussions with your module lecturers, personal tutors and project supervisors is strongly encouraged as a great way to get the most benefit from your degree. In addition, please do take time to interact with your fellow students and Imperial's wider community, which can be invaluable resources for inspiration and creative stimulation. As a department, we also encourage you to attend and get involved with departmental events including seminars, colloquia, and social activities.

I wish you a fruitful year ahead filled with lots of opportunities and experiences that you will enjoy and remember for many years to come!

Dr Marina Evangelou

Welcome from Programme Director

Dear students,

It is with great pleasure to welcome you at Imperial, and on the MSc in Statistics.

You are about to embark on perhaps the most important educational year of your life that will provide you with the necessary skillset for a thriving career in statistics and data science. There is almost no other discipline that opens so many doors and provides so many professional opportunities as statistics – we play in everyone's backyard.

We have carefully designed a modern, visionary course to make sure that you gain experience across the entire breadth of statistical theory and its applications. The course will culminate with your statistical research project, in which you will have the opportunity to work closely with some of the leading statisticians in the UK. Throughout, you will benefit from modern, multi-mode teaching concepts that facilitate learning and provide you with a truly unique experience.

The course is run by the Statistics Section of the Department of Mathematics, which has an international reputation for conducting methodological and applied statistical research at the highest level. We have strong collaborations across Imperial, including the Data Science Institute, Imperial's Artificial Intelligence Network, or Imperial X, Imperial's new initiative for academia and industry to tackle some of the world's greatest challenges. I strongly encourage you to connect and engage with your fellow students and the academics of the Section – it is these interactions that will last a lifetime and make you excel.

I hope you will have a truly fruitful time at Imperial,

Dr Oliver Ratmann

Academic and administrative staff

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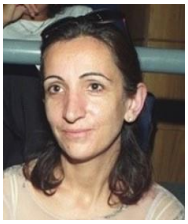	Rula Murtada MSc Programmes Coordinator	627 Huxley Building Via Teams r.murtada@imperial.ac.uk
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Departmental Information

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Attendance and absence

The MSc is a full year degree and **you must inform the MSc administrator if you are absent from university for more than three days** during the autumn, spring or summer terms, or the summer period until and including September. 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, coursework or presentations) due to illness or other unforeseeable and unavoidable circumstance you must follow the university's Mitigating Circumstances Policy and Procedure. Please note that 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. Please see the section on mitigation below.

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

Students are also expected to attend scheduled meetings with their Personal Tutor during Autumn and Spring terms ("Meet Your Personal Tutor" weeks). Students are expected to meet regularly (e.g., weekly) with their project supervisor during their research project. Missed appointments will be reported to the Programme Director.

If you do not engage satisfactorily with your studies, Imperial will consider what action is necessary to support your continued study under the Unsatisfactory Engagement Policy:

www.imperial.ac.uk/media/imperial-college/administration-and-support-services/registry/academic-governance/public/regulations/2022x2f23/Unsatisfactory-Engagement-Policy-and-Procedure.pdf

Concerns and feedback

The MSc in Statistics has been running for many years, and the programme team, all the staff and all support services are committed to delivering a world-class teaching and learning experience. Yet, every year is different and unforeseeable circumstances can arise in your lives as in those of academic staff with teaching responsibilities and staff with support roles.

The programme team can only help and intervene if you contact us early, so please always reach out to your Personal Tutor, our Student Experience Coordinator or the Director (See contact details above). We are here to make this MSc a world-class and life enriching experience, and help you get the most out of it.

Key dates 2024–25

Term dates

Autumn term:	28 September 2024 – 13 December 2024
Spring term:	04 January 2025 - 21 March 2025
Summer term:	26 April 2025 – 27 June 2025

Closure dates

Christmas/New Year:	23 December 2024 - 01 January 2025 (Imperial reopens on 02 January 2025)
Easter Holiday:	17 April 2025 – 22 April 2025 (Imperial reopens on 23 April 2025)
Early May Bank Holiday:	05 May 2025
Spring Bank Holiday:	26 May 2025
Summer Bank Holiday:	25 August 2025

Key events

Induction Week:	30 September 2024 - 4 October 2024
Election of MSc Stats Student Reps:	30 September 2024 - 4 October 2024
Meet Your Personal Tutor:	30 September 2024 - 4 October 2024
Meet Your Personal Tutor Week:	11 November 2024 - 15 November 2024
Examinations for Autumn Term:	First week in January 2025
Meet Your Personal Tutor Week:	20 January 2025 – 24 January 2025

Release of Informal Autumn Term Results: Last week in February/early March 2025

Meet Your Personal Tutor Week:	24 February – 28 February 2025
Examinations for Spring Term:	May 2025
Great Exhibition Road Festival:	14 June 2025 - 15 June 2025
Meet Your Personal Tutor Week:	23 June 2025 – 27 June 2025

Research Posters and Statistics Summer Party: 9 July 2025

Data Science Challenge:	10 July 2025

Release of Informal Spring Term Results: Last week in July 2025

Submission of MSc Thesis:	29 August 2025
Research Project Presentations:	17 – 19 September 2025
Statistics Farewell Celebrations:	19 September 2025

Resit Exams:	September 2025
Exam Board:	September/October 2025
Results Released by Registry:	October 2025
Graduation Ceremony:	May 2026

2. Programme information

Aims/Objectives/Learning Outcomes

Here is what you can broadly expect from the programme:

1. You will gain a thorough understanding of the probabilistic background to statistics. This will be mainly achieved through one of the core modules in term 1.
2. You will master the theoretical and methodological foundations of statistics. Besides a core module, you can choose to specialise in methodological aspects of statistics through appropriate choice of optional modules in term 2 as well as through the choice of the statistical research project in term 3.
3. You will become proficient in modern computational methods for statistics. Core skills will be taught in "Computational Statistics" in term 1, with extensive opportunity to expand in the optional modules and the statistical research project.
4. You will become confident in using statistical methods to solve practical problems. Core skills will be taught in "Applied Statistics" in term 1. The optional modules in term 2 and the statistical research project will provide many opportunities to deepen this skill across a wide and diverse range of application areas.
5. You will get proficient in the statistical language R, python, and other languages.
6. You will learn to tackle, analyse and solve realistic statistical problems independently. This will be mostly achieved through the research project in term 3.

Programme Structure

In addition to the general MSc in Statistics, five additional streams are offered: Applied Statistics, Biostatistics, Theory and Methods, Data Science and Statistical Finance. The general MSc in Statistics stream enables you to choose modules across a variety of topics, whereas the specialist streams focus on a specific theme. The formal qualification received will include the name of the specialist stream, for example: MSc Statistics (Applied Statistics). It might be possible to switch between streams until the beginning of the Spring term, but this is subject to approval by the Programme Director.

A common set of core modules in the Autumn term ensures that all students obtain advanced knowledge in the fundamental areas of probability theory, statistical inference and applied and computational statistics. A large and diverse set of optional modules is offered in the Spring term, which provides the flexibility for you to develop your own specialist interests. During the Summer term, you complete a research project with a member of academic staff on a state-of-the-art research problem that suits your interests.

Autumn Term

Week 1	Induction Week
Weeks 2-11	Core modules: MATH70071 Applied Statistics (7.5 ECTS) MATH70093 Computational Statistics (7.5 ECTS) MATH70078 Fundamentals of Statistical Inference (7.5 ECTS) MATH70082 Probability for Statistics (7.5 ECTS)

Spring Term

The modules you take will depend on which stream you are on, tables showing the combination for each stream listed below. Outside of the Core modules offered in the Autumn term, you also need to complete elective modules that equal to 30-32.5 ECTS, for example 6 modules of 5 ECTS each. It is not possible to take modules that in total exceed 32.5 ECTS.

Week 1	Written exams for: MATH70078 Fundamentals of Statistical Inference MATH70082 Probability for Statistics
Weeks 2-6	Elective modules: MATH70079 Introduction to Statistical Finance (5 ECTS) MATH70073 Advanced Bayesian Methods (5 ECTS) MATH70076 Data Science (5 ECTS) MATH70089 Stochastic Processes (5 ECTS)
Weeks 7-11	Elective modules: MATH70013 Advanced Simulation Methods (5 ECTS) MATH70070 Advanced Statistical Finance (5 ECTS) MATH70083 Statistical Genetics and Bioinformatics (5 ECTS)
Weeks 1-11	Elective modules: MATH70101 Deep Learning (7.5 ECTS module) MATH70099 Big Data: Statistical Scalability with PySpark (5 ECTS) MATH70134 Mathematical Foundations for Machine Learning (7.5 ECTS) MATH70048 Survival Models (7.5 ECTS module) MATH70046 Time Series Analysis (7.5 ECTS) MATH70139 Spatial Statistics (7.5 ECTS)

Summer Term and July-September

The summer term and the summer months will focus on the final exams, capstone courseworks, a Data Science challenge, and work on the Statistical Research Project. Poster project presentations on the research projects and a summer party with all academic staff will be held in early July. Oral presentations on the research project will be shortly after submission of your thesis. The course will culminate with Farewell Celebrations.

Weeks 1-3	Written exams and or capstone coursework for optional modules.
Weeks 4-	Work on the Statistical Research Project.

Core Modules

MATH70082 Probability for Statistics (Dr Y. Tang)

The module Probability for Statistics introduces the key concepts of probability theory in a rigorous way. Topics covered include: the elements of a probability space, random variables and vectors, distribution functions, independence of random variable/vectors, a concise review of the Lebesgue-Stieltjes integration theory, expectation, modes of convergence of random variables, law of large numbers, central limit theorems, characteristic functions, conditional probability, and expectation. The second part of the module will focus on sequences of dependent random variables, covering aspects of discrete-time Markov chains and their key properties, including the Chapman-Kolmogorov equations, classification of states, recurrence and transience, stationarity, time reversibility, ergodicity.

Assessment: 75% written exam, 25% coursework

MATH70078 Fundamentals of Statistical Inference (Prof A. Young)

In statistical inference experimental or observational data are modelled as the observed values of random variables, to provide a framework from which inductive conclusions may be drawn about the mechanism giving rise to the data. This is done by supposing that the random variable has an assumed parametric probability distribution: the inference is performed by assessing some aspect of the parameter of the distribution.

This module develops the main approaches to statistical inference for point estimation, hypothesis testing, and confidence set construction. Focus is on description of the key elements of Bayesian, frequentist and Fisherian inference through development of the central underlying principles of statistical theory. Formal treatment is given of a decision-theoretic formulation of statistical inference. Key elements of Bayesian and frequentist theory are described, focussing on inferential methods deriving from important special classes of parametric problem and application of principles of data reduction. General purpose methods of inference deriving from the principle of maximum likelihood are detailed. Throughout, particular attention is given to evaluation of the comparative properties of competing methods of inference.

Assessment: 75% written exam, 25% coursework.

MATH70071 Applied Statistics (Prof D. Mortlock)

The module focuses on statistical modelling and regression when applied to realistic problems and real data. This module will explore the following classes of statistical models: Linear Models, Generalized Linear Models, Normal Linear Mixed Models. For each class of models we will look at: mathematically defining the model, estimation procedures, inference and diagnostics from both frequentist and Bayesian approaches.

Assessment: 50% in-class tests, 50% coursework.

MATH70093 Computational Statistics (Dr A. Duncan and Dr S. Filippi)

This module covers several computational methods that are key in modern statistics. Topics include Statistical computing: R programming, data structures, programming constructs, object system, graphics. Numerical methods: root finding, numerical integration, optimisation methods such as EM-type algorithms. Simulation: generating random variates, Monte Carlo integration. Simulation approaches in inference: randomisation and permutation procedures, bootstrap, Markov Chain Monte-Carlo.

Assessment: 50% in-class tests, 50% coursework.

Choosing Elective Modules

You must register for Spring term modules equivalent to 30-32.5 ECTS. The stream you are on will determine which elective modules are compulsory or optional. The tables below illustrate the permitted module combinations. Several elective modules in term 2, mostly those worth 7.5 ECTS, are shared with undergraduate students from the MSci in Mathematics course, or postgraduate students from the Machine Learning and Data Science course. If you completed a previous degree at Imperial, you are not eligible to take a module if you have previously audited or taken the same module at Imperial as either a level 6 or level 7 version.

You will have to make a final choice of elective modules once the second wave of elective modules in the Spring term is running (probably in weeks 7 or 8 of the Spring term - precise date to be announced). However, you will be deemed to be officially registered on a module through the submission of coursework which (in total) is worth at least 15% of the final mark. Thus, once you have reached this point in a module, you will be committed to completing the module. This is typically the case for several of the term 2 elective modules before week 7/8, please note the joining instructions and examination schedule that will be provided by module leads at the start of their modules in this regard.

General Stream	
Choose 30-32.5 ECTS	
5 ECTS	7.5 ECTS
1. Advanced Bayesian Methods 2. Advanced Simulation Methods 3. Advanced Statistical Finance 4. Big Data: Statistical Scalability with PySpark 5. Data Science 6. Introduction to Statistical Finance 7. Statistical Genetics and Bioinformatics 8. Stochastic Processes	9. Deep Learning 10. Survival Models 11. Time Series Analysis 12. Mathematical Foundations for Machine Learning 13. Spatial Statistics

Applied Statistics Stream
Choose at least three modules from the modules listed below. Choose any other elective modules from the General Stream for a total of 30-32.5 ECTS worth of elective modules.
1. Advanced Bayesian Methods (5 ECTS) 2. Advanced Simulation Methods (5 ECTS) 3. Data Science (5 ECTS) 4. Introduction to Statistical Finance (5 ECTS) 5. Mathematical Foundations for Machine Learning (7.5 ECTS) 6. Statistical Genetics and Bioinformatics (5 ECTS)

Biostatistics Stream
Choose at least three modules from the modules listed below. Choose any other elective modules from the General Stream for a total of 30-32.5 ECTS worth of elective modules.
1. Advanced Bayesian Methods (5 ECTS) 2. Advanced Simulation Methods (5 ECTS)

3. Big Data: Statistical Scalability with PySpark (5 ECTS) 4. Statistical Genetics and Bioinformatics (5 ECTS) 5. Time Series (7.5 ECTS)

Data Science Stream
Choose at least three modules from the modules listed below. Choose any other elective modules from the General Stream for a total of 30-32.5 ECTS worth of elective modules.
1. Advanced Bayesian Methods (5 ECTS) 2. Big Data: Statistical Scalability with PySpark (5 ECTS) 3. Data Science (5 ECTS) 4. Deep Learning (7.5 ECTS) 5. Mathematical Foundations of Machine Learning (7.5 ECTS)

Statistical Finance Stream
Choose at least three modules from the modules listed below. Choose any other elective modules from the General stream for a total of 30-32.5 ECTS worth of elective modules.
1. Advanced Simulation Methods (5 ECTS) 2. Big Data: Statistical Scalability with PySpark (5 ECTS) 3. Introduction to Statistical Finance (5 ECTS) 4. Advanced Statistical Finance (5 ECTS) 5. Stochastic Processes (5 ECTS) 6. Survival Models (7.5 ECTS)

Theory and Methods Stream
Choose at least three modules from the modules listed below. Choose any other elective modules from the General stream for a total of 30-32.5 ECTS worth of elective modules.
1. Advanced Simulation Methods (5 ECTS) 2. Mathematical Foundations of Machine Learning (7.5 ECTS) 3. Stochastic Processes (5 ECTS) 4. Survival Models (7.5 ECTS)

Elective 5 ECTS Modules

MATH70013 Advanced Simulation Methods (Dr D. Akyildiz)

Modern problems in statistics require sampling from complicated probability distributions defined on a variety of spaces and setups. In this module we will visit popular advanced sampling techniques, such as Importance Sampling, Markov Chain Monte Carlo, Sequential Monte Carlo. We will consider the underlying principles of each method as well as practical aspects related to implementation, computational cost, and efficiency. By the end of the module the students will be familiar with these sampling methods and will have applied them to popular models, such as Hidden Markov Models, which appear ubiquitous in many scientific disciplines.

Assessment: 100% coursework.

MATH70073 Advanced Bayesian Methods (Dr O. Ratmann)

The module introduces modern Bayesian methods and modelling approaches that have become highly used across a wide range of applied data problems. Case examples will illustrate recent theoretical advances in action, covering efficient Gaussian Process approximations, variable selection, principles of handling missing data, meta-analysis, and aspects of causal inference. Particular emphasis will be on state-of-the-art computing, introducing students to the R tidyverse environment for data science, techniques for handling big data, and the Stan software for inference.

Assessment: 60% coursework, 30% in-class test, 10% quizzes.

MATH70076 Data Science (Dr Z. Varty)

Data scientific methods are wide in scope, drawing equally from statistics and computer science. This module will cover computing with data, producing reproducible workflows, preparing messy real-world datasets, performing exploratory data analysis and presenting data via data visualisation techniques. In addition, it will cover the science in data science, exploring what data analysts really do, thinking critically about appropriate uses and misuses of data science.

Assessment: 100% coursework.

MATH70079 Introduction to Statistical Finance (Dr A. Luati)

The module introduces fundamental concepts in financial economics and quantitative finance and presents suitable statistical tools which are widely used when analysing financial data. The module will start off with an introduction to risk-neutral pricing theory followed by a primer on risk measures such as value at risk and expected shortfall which are widely used in financial risk management. Next, an introduction to time series analysis will be given, where the focus will be on so-called ARMA-GARCH processes. Such processes can describe some of the stylised facts widely observed in financial data, including non-Gaussian returns and heteroskedasticity. Finally, methods for forecasting financial time series will be introduced.

Assessment: 70% written exam, 30% coursework.

MATH70070 Advanced Statistical Finance (Dr M. Pakkanen)

The module will first introduce the basics of extreme value theory, which will be used to develop models and estimation methods for extremes in financial data. The second part of the module will provide a concise introduction to the theory of stochastic integration and Itô calculus, which provide a theoretical foundation for volatility estimation from high-frequency data using the concept of realised variance. The asymptotic properties of realised variance will be elucidated and applied to draw inference on realised volatility. The third part introduces some recently developed volatility forecasting models that incorporate volatility information from high-frequency data and demonstrates how the performance of such models can be assessed and compared using modern forecast evaluation methods such as the Diebold-Mariano test and the model confidence set. The final part of the module provides an overview of covariance matrix estimation in a high-dimensional setting, motivated by applications to variance-optimal portfolios. The pitfalls of using the standard sample covariance matrix with high-dimensional data are first exemplified. Then it is shown how shrinkage methods can be applied to estimate covariance matrices accurately using high-dimensional data.

Assessment: 80% written exam, 20% coursework.

MATH70083 Statistical Genetics and Bioinformatics (Dr M. Evangelou)

Advances in biotechnology are making routine use of DNA sequencing and microarray technology in biomedical research and clinical use a reality. Innovations in the field of Genomics are not only driving new investigations in the understanding of biology and disease but also fuelling rapid developments in computer science, statistics, and engineering to support the massive information processing requirements. In this module, students will be introduced into the world of Statistical Genetics and Bioinformatics that have become in the last 10-15 years two of the dominant areas of research and application for modern Statistics.

In this module we will develop models and tools to understand complex and high-dimensional genetics datasets. This will include statistical and machine learning techniques for: multiple testing, penalised regression, clustering, p-value combination, dimension reduction. The module will cover both Frequentist and Bayesian statistical approaches. In addition to the statistical approaches, the students will be introduced to genome-wide association and expression studies data, next generation sequencing and other OMICS datasets.

Assessment: 30% in-class test, 70% coursework

MATH70089 Stochastic Processes (Prof P. Ernst)

A stochastic process is a statistical model for describing phenonema that evolve dynamically in a random manner over time. This module will cover aspects of continuous-time stochastic processes, with a focus on theory, and with some computation. Various classes of stochastic processes will be considered, but the Wiener process and diffusions will be emphasised. Multiple applications to statistical finance will also be presented.

Assessment: 80% written exam, 20% coursework.

MATH70099 Big Data: Statistical Scalability with PySpark (Dr F. Sanna Passino)

The emergence of Big Data as a recognised and sought-after technological capability is due to the general recognition that data is omnipresent, an asset from which organisations can derive business value. The objective of this module is to train statistically minded practitioners in the use of common Big Data tools, with an emphasis on the use of advanced statistical methods for analysis. Specific focus will be given to big data processing with platforms such as Hadoop and PySpark, creating distributed fault-tolerant applications through e.g. map-reduce, and learning and applying scalable inference algorithms for big data. Finally, students will gain knowledge and experience in what Big Data technologies are appropriate for what data analytic challenges.

Assessment: 100% coursework.

Elective 7.5 ECTS Modules

MATH70101 Deep Learning (Dr K. Webster)

This module teaches the building blocks of deep learning models, and how to design network architectures for specific applications, in both supervised and unsupervised contexts. It covers practical skills in implementing neural networks in the popular deep learning library TensorFlow. Students will learn how to build, train and evaluate networks using this framework. In the latter part of the module, the focus is on probabilistic deep learning models, such as normalising flows and variational autoencoders (VAEs).

Assessment: 100% coursework.

MATH70134 Mathematical Foundations for Machine Learning (Dr N. Boulle)

Machine learning techniques such as deep learning have recently achieved remarkable results in a very wide variety of applications such as image recognition, self-driving vehicles, partial differential equation solvers, trading strategies. However, how and why the recent (deep learning) models work is often still not fully understood. In this course we will begin with a general introduction into machine learning and continue to deep learning. We will focus on better some observed phenomena in deep learning aiming to gain insight into the impact of the optimization algorithms and network architecture through mathematical tools.

Assessment: 100% coursework.

MATH70048 Survival Models (Dr H. Battey)

Survival models are fundamental to analysing the occurrence of events, in particular when event times are subject to censoring, which means that sometimes the event time is not known, but it is only known that the event has not occurred in a given time interval. This is common in many areas, including clinical trials and in the actuarial field. This module will introduce key ideas and models, including lifetime distributions, censoring, parametric models, non-parametric estimators (Kaplan-Meier estimator), semi-parametric models (Cox proportional hazards models), as well as multistate models. An introduction to the counting process approach for analysing these models will also be given.

Assessment: 90% written exam, 10% coursework.

MATH70046 Time Series Analysis (Dr E. Cohen)

A time series is a series of data points indexed and evolving in time. Importantly, we cannot assume the observations are independent from one another and, in fact, they are often significantly correlated. They are prevalent in many areas of modern life, including science, engineering, business, economics, and finance. This module is a self-contained introduction to the analysis of time series. Weight is given to both the time domain and frequency domain viewpoints, and important structural features (e.g., stationarity, invertibility) are treated rigorously. Attention is given to modelling, estimation and prediction (forecasting), and useful computational algorithms and approaches are introduced.

Assessment: 90% written exam, 10% coursework

MATH70139 Spatial Statistics (Dr A. Sykulski)

Data collected in space are common in many applications including climate science, epidemiology, and economics. This module covers statistical foundations, theory, methodology and applications for modelling data collected in space across a wide array of application domains. The module is structured to cover in detail the three fundamental forms in which spatial data are collected and analysed: gridded data, network data, and point pattern data. Particular focus will be given to Gaussian Random Fields, spectral density functions, variograms, kriging, discrete random fields, and spatial point processes.

Assessment: 90% written exam, 10% coursework

The Statistical Research Project

Allocation of supervisors

Early in the Spring term, information sessions will be held for students to meet potential academic and external research project supervisors, including external industry partners, and learn about their general area of research and/or research topics.

Shortly after, students will be asked to submit their preferred area of research for their project, and list their preferred supervisors. If a student is in a particular programme stream (Statistical Theory and Methods, Applied Statistics, Biostatistics, Data Science or Statistical Finance), then their choice of research area must match their stream.

A marriage algorithm will determine the allocation of the students to the supervisors, taking into account the students' performances in the core modules and the supervisors' preferences. Students will be allocated a research project in their stream, and as much as possible to one of their preferred supervisors/external industry partners.

We aim to announce the allocation as soon as possible and before the end of the Spring term. Before the end of the Spring term, students and supervisors will have their first meeting to agree on the specific milestones of their research project, ensure data are available, and for students to obtain a reading list of relevant scientific literature. Supervisors will hold the final responsibility in specifying the details of the research project, and guiding students to a research question that they can productively address over the summer.

Students with a strong desire to work on a specific topic may approach academic members of staff in the Statistics Section, outside the Statistics Section, or industry partners to discuss potentially working together on that topic. **Any such arrangement must be finalised by the end of week 1 in January.** Students will be invited to an information session in the Autumn term about project options with external partners. More information about the research interests of the members of the Statistics Section can be found at https://www.imperial.ac.uk/statistics/research/.

Working on the project

The purpose of the project is to train and test your ability to work independently on an advanced topic in statistics, and to a high professional standard.

The work on the project is done under the direction of your project supervisor. All research external projects will also have a secondary supervisor from within the Statistics section who will guide students and external partners on the scope, originality and level of their research project typically expected on the MSc in Statistics. Supervisor(s) will give general guidance on the work for the project and the writing of the thesis, while point-to-point guidance or debugging of your code cannot be expected.

Students should begin initial scoping work on their research project as soon as the topic is allocated. Aim to meet your supervisor before the Easter break to agree on broad project aims, identify primary literature, and agree on steps needed to ensure access to data. During the Summer term, immediately after the assessments for the elective modules, the specific milestones of the research project should be defined and refined.

You are expected to work full-time at Imperial on the research project from the time after the assessments for the term 2 modules until submission of your thesis, as the MSc in Statistics is a full-year course.

You can expect regular meetings with your supervisor over the entire period of your research project, typically on average once per week within a group of students. After the Summer term (term

3), meetings need to be expected to be less frequent as supervisors may need to travel and/or take annual leave. It is a good practice to keep minutes of your meetings and to share the notes with your supervisor(s) after each meeting. For fruitful supervisory meetings, it is recommended that you have an agenda prepared for each meeting that you work through with your supervisor, which will typically make your meetings more fruitful for a successful project. Continued documentation of your work is good practice, and it will help greatly when the final thesis is being prepared.

Project Milestones

There are three milestones. A poster presentation of your research project in early July. This is a compulsory, but non-assessed part of the course. The second milestone is the submission of the thesis (written report) that counts for 90% of the overall research project mark. The final milestone is the oral presentation of the project that counts for 10% of the overall research project mark. Further details of the three milestones can be found below. The dates of these milestones are listed in the Key Dates section.

Poster Presentation

In early July, you will present a poster on your research project. This is an excellent opportunity to get feedback, both from academic researchers and members of staff as well as from your fellow students on the initial stages of your research. The poster should clearly state and describe the underlying question and the scope of your project. It may very well be that you cannot present any results of your own yet, but you may want to address what results you hope to achieve. An information session with further details, including templates, will be held at the beginning of the Summer term (term 3).

The Thesis

The thesis is a full report on your statistical research project and the original work conducted, which must be submitted electronically by the data listed in the Key Dates section via the Virtual Learning Environment (Blackboard). Late submission may be penalised and will normally delay consideration of the thesis to the following year.

The thesis should be on A4-sized paper, typed using a LaTeX template that will be shared with the students, and follow the template structure. Students must follow the university's guidelines on academic integrity, and include in the thesis and sign the declaration "The work contained in this thesis is my own work unless otherwise stated". Additional guidance that will be provided to you during an information session in the Summer term.

You are strongly advised to pass a first draft of the thesis to the supervisor(s) one month before the submission deadline. Advice on overall presentation, focus, and clarity can be expected whereas advice on revised versions, spelling, grammar, or the suitability particular sections of the thesis cannot be expected.

Oral Presentation

An integral part of the project will be an oral presentation that will train you in conveying the main ideas and results in your highly specialised work on the summer project to a general statistical public, as well as further your communication and delivery skills. Students should expect to present their research in front of academic members of staff, research project partners, and fellow students. The oral presentation will usually take place shortly after the submission deadline of the thesis, and students are required to attend sessions they are not presenting in; precise dates are listed in the Key Dates section.

Computing

The Department of Mathematics has several research computing resources - discuss with your supervisor if you need to use those. Visit these links for an overview:

https://www.imperial.ac.uk/mathematics/for-staff/research-computing-support/
https://www.imperial.ac.uk/admin-services/ict/self-service/research-support/rcs/

Marking Guidelines

All marking guidelines will be available on Blackboard.

Further Elements of the Course

Stats clinics

The Curriculum further includes regular 1-hour long revision sessions ahead of important deadlines and to facilitate learning. The Stats clinics are run by graduate teaching assistants on a Q&A basis and are your main opportunity to obtain professional help beyond the Office Hours. Topics covered include revision of preliminary material, revision of R and LaTeX, an introduction to python, advanced concepts in python in preparation of several elective modules, exam preparation, as well as review of the content covered in the core module in Autumn term. Attend these sessions as needed.

Careers in Statistics events

The curriculum includes a variety of career events in which professional statisticians provide insights into their career, tips for next steps and applications, and an overview of the many professional opportunities available to statisticians in industry, with NGOs, in administration and government, and in academia. Attendance is strongly encouraged.

The Statistics Research Seminar

The Statistics Section organizes regular research seminars. **Students are strongly encouraged to attend the seminars and engage with the speakers, as these are unique opportunities for training professional conversation skills.** Speakers are specifically instructed to "start gently", to allow MSc students to follow parts of the talks. Seminars are advertised by email and at:

http://www.imperial.ac.uk/statistics/seminars/statistics-seminar/

Professional Skills Development

Working as a practical statistician will involve several transferable skills, a lot of these will be trained during the year. As part of the course, you will train your teamworking abilities through multiple group activities. You will train your problem-solving skills throughout the course. In particular, it is very important that you work through the problem sheets that you will be given in preparation of the assessments. Furthermore, the project will enable you to work thoroughly on a major problem. Presentation skills are very important for your future career. You will have the opportunity to train these in the presentation of your project and oral examinations. Furthermore, some lecturers may require you to present your coursework.

More information on improving and acquiring such skills can be found at:

https://www.imperial.ac.uk/careers/applications-and-interviews/presentations/

My Imperial Campus

An app for students - designed by students!

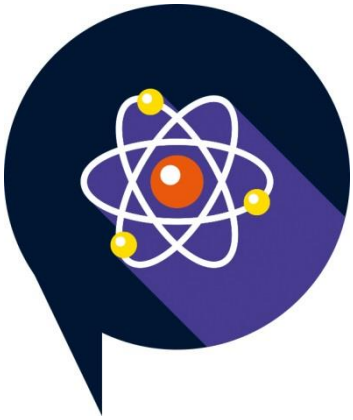
My Imperial Campus is the beginning of a new mobile experience for the Imperial College London community. The app is being designed by Imperial students and alumni and delivered in an iterative way as the team learns more about the experiences that our community want in order to thrive at Imperial. The app is relatively young, and development is continual, please download and explore the app and look out for opportunities to get involved!

You can download the app for Android devices from the Play Store or for iOS devices from the App Store.
Current feature highlights:

- 'Search' is an AI chatbot allowing users to chat with information from the university website and other resources.
- 'Maps' – 2D maps of all campuses and the first 3D map of the South Kensington Campus (White City campus is next).
- 'Events' - All public events Student Union events and societies can be explored, edit your preferences in the settings to customise the feed. Here you can also find a 'Welcome week' filter to view specific events to enjoy at your welcome week.
- 'Timetable check-in' - The Business School and a growing list of other departments requires you to check into class if you are physically on site; use this feature to quickly check-in. Here you can also find a link off to view your full timetable in a browser.
- 'Internships and Careers' - Search through the latest internships and job vacancies received by the Careers Service.

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 students, including information on support, health and well-being and ideas to help you make the most of London.



www.imperial.ac.uk/students/success-guide/pgt/

Student Shapers

Student Shapers is a chance to actively contribute to improving your learning experience at Imperial. This programme lets you work directly with staff on exciting projects that enhance the curriculum, create innovative teaching methods, and make a real difference in our learning community. The Student Shapers programme is open to all Imperial students across all departments. All opportunities that have been approved are listed in the 'Current Projects' area of the website.

 www.imperial.ac.uk/students/studentshapers/how-to-get-involved/current-projects/

Imperial Award

The Imperial Award is a programme that fosters personal development through self-reflection on your experiences, formally recognising this on your transcript. This programme is open to all students at Imperial, including UG, PGT, PGR and intercalating students. The Imperial Award aims to help you uncover more about yourself and your potential, and to enhance your ability to articulate the achievements and skills you have developed through activities beyond the lecture hall. For more information, please visit the Imperial Award page.

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

3. Assessment

The MSc in Statistics programme specification can be found on the course website, along with the competency standards for all taught mathematics masters programmes.
https://www.imperial.ac.uk/mathematics/postgraduate/msc/

The entire MSc course will be worth 90 ECTS. It consists of two elements. The first element consists of the taught modules and is worth 60 ECTS. The second, the summer research project, is assigned 30 ECTS.

Taught components

MSc in Statistics modules

The MSc modules will be assessed through a suitable range of approaches, such as courseworks, group assessments, quizzes, and written examinations. Written exams will either take place in the first week of the Spring term or at the beginning of the summer term. 7.5 ECTS modules will normally be examined by a 2-hour exam and 5 ECTS modules by a 1.5-hour exam.

The raw marks from each assessment will be converted to a 0-100 scale, weighted and combined to produce a raw module mark on a 0-100 scale. Due to the nature of Statistics as an academic discipline it is often necessary for module marks to be scaled in order to ensure comparability across all MSc modules and so that they map appropriately onto the postgraduate degree classification system. In accordance with the Regulations for Taught Programmes of Study, this process is applied consistently to all students on each module, and reported to External Examiners and the Board of Examiners.

Based on students' performances in the module assessments, the module lecturers propose what they consider to be the pass / fail boundary (P), the Pass/Merit Boundary (T), the Merit/Distinction Boundary (E) and the maximum mark (M) which was realistically possible for the module. The proposed grade boundaries (PTEM) are reviewed by a sub-Board of the Board of Examiners (the MSc Liaison Panel, meeting twice during the academic year, beginning of the Spring term and end of the Summer term) and the external examiner, with adjustments made to ensure comparability of marks across modules. This process is essential given the broad diversity in elective modules offered at the MSc in Statistics. Once the values of the grade boundaries for a module have been finalised, an individual raw mark is then mapped to the university scale by linear interpolation between the internal grade boundaries to the university grade boundaries (50, 60, 70 and 100 respectively, with 0 being mapped to 0), and this becomes the student's mark for that module. A postgraduate student is required by university to obtain a mark at or above 50% on the university scale to pass these modules. Postgraduate students may accrue a certain number of modules with module marks in the 40%-50% range ("Condonable Pass") and still be awarded the MSc in Statistics degree (see below).

Undergraduate modules

For modules run by the undergraduate teaching system (Mathematical Foundations for Machine Learning, Time Series, Survival Models, Spatial Statistics), the marks for MSc in Statistics students are calibrated and moderated together with those from undergraduate students.

When sitting exams for these modules there may be a 5th "mastery" question that MSc and the M4 (4th year) undergraduate students are required to take on top of the other four questions. This will be harder than the other 4 questions. Students will be given an extra half an hour for this question (M3

students have 2hrs for the whole exam, MSc and M4 students have 2.5hrs for the exam) and it has the same mark weighting as questions 1-4.

The marks for the entire group of students (undergraduate and postgraduate) sitting the module are collated and then scaled and converted to the university scale as a whole (details can be found undergraduate handbook). A postgraduate student is required by the university to obtain a mark at or above 50% on the university scale to pass these modules.

MLDS modules

For modules run by the MSc in Machine Learning and Data Science (Deep Learning and Big Data: Statistical Scalability with PySpark), the marks for MSc in Statistics students are calibrated and moderated together with those from MLDS students. A postgraduate student is required by the university to obtain a mark at or above 50% on the university scale to pass these modules.

Project

The final element of the course, the research project, will be examined through a written report of original work, the "thesis", and an oral presentation on the research project followed by a brief Q&A (see also above).

The thesis must be submitted by the deadline specified in the Key Dates section, and the oral presentation must be delivered in person on the dates specified in the Key Dates section. Students will need to hold their availability across both oral presentation days, and it is expected that they attend presentations of fellow students throughout.

The thesis will be judged on the quality of the work it describes by two academic members of staff. Point by point marking schemes for the thesis and the oral presentation will be shared with you at the beginning of the Summer term (term 3). The thesis is worth 90% of the project mark and includes a 10% mark for student initiative, and the oral presentation is worth 10% of the project mark.

Degree Classifications

MSc degrees are awarded once each year, following the Board of Examiners' Meeting; see the Key Dates. In line with usual practice, the MSc in Statistics has an external examiner, meaning an examiner external to the university whose main role it is to uphold standards and to ensure that the assessment process is fair and rigorous. More details of the role of the external examiner are available below.

Degree classification is based on assessment results from each of the modules and the project mark (each of these assessment results is on the 0-100 scale). The results from the taught part of the programme that comprises the core and elective modules are combined following the weightings below to produce the weighted average mark for the taught components and which is used for the purpose of degree classification.

Module	% Weighting
Probability for Statistics	12.5%
Fundamentals of Statistical Inference	12.5%
Applied Statistics	12.5%
Computational Statistics	12.5%
Elective modules to the value of 30-32.5 ECTS. Each module weighted in proportion to its ECTS.	50%

Award of the MSc in Statistics Degree

To qualify for the award of the MSc in Statistics a student must have:

a. accumulated credit to the value of no fewer than 90 credits at level 7.
b. and no more than 15 credits as a Compensated Pass.

For the specialisation streams a student must have met the specific requirements of their chosen specialisation as outlined above.

Classification of Postgraduate Taught Awards

The university sets the class of Degree that may be awarded as follows:

Distinction: A Distinction mark (70.00% or above) must normally be met separately in:

a. the weighted average mark across the taught part of the programme that comprises the core and elective modules,
b. and additionally in the Statistics research project.

Merit: A Merit mark (from 60.00% to less than 70.00%) must be met separately in:

a. the weighted average mark across the taught part of the programme that comprises the core and elective modules,
b. and additionally in the Statistics research project.

Pass: A Pass mark (from 50.00% to less than 60.00%) must be met separately in:

a. the weighted average mark across the taught part of the programme that comprises the core and elective modules,

b. and additionally in the Statistics research project.

Overall weighted averages 0.5% from the degree borderlines will be automatically rounded up in accordance with item 13.4 in the 2023-2024 regulations. The board of examiners will consider other borderline cases, as they are defined in items 13.6–13.7 of the Regulations for Taught Programmes of Study 2023-2024.

Exit Degree: Award of the Postgraduate Diploma in Statistics (PG Dip)

To qualify for the award of the PG in Statistics a student must have passed:

a. Accumulated credit from modules to the value of no fewer than 60 credits at Level 7.
b. and no more than 10 credits as a Compensated Pass;

The Postgraduate Diploma in Statistics is an exit award that may be offered at the discretion of the Board of Examiners and is not available for entry.

Overall weighted average of Postgraduate Taught Award

The overall weighted average of the postgraduate award is based on assessment results from each of the modules and the research project (each of these assessment results is on the 0-100 scale). These results are then combined following the weightings below:

Weightings:

Module	3. % Weighting
Probability for Statistics	8.33%
Fundamentals of Statistical Inference	8.33%
Applied Statistics	8.33%
Computational Statistics	8.33%
Elective modules to the value of 30-32.5 ECTS. Each module weighted in proportion to its ECTS.	33.33%
Statistics Research Project	33.33%

Overall weighted averages 0.5% from the degree borderlines (60.00% mark for merit and 70.00% mark for distinction) will be automatically rounded up in accordance with item 13.16 of the Regulations for Taught Programmes of Study 2023-2024 (Qualification for award, as described also in item 2 and 3 above).

Release of Results

The exam board, which will take place after the course has finished, will have final authority to decide your results. This board will, among other things, consider borderline cases and take mitigating circumstances into account. You will receive your final results from Registry in October/November after your course has finished.

During the year, you will receive indications of your performance in the various courses you have taken, which are provisional and subject to confirmation by the exam board. Specifically, in Blackboard, under the "course" MSc in Statistics, you will find indications of your results on the university scale (under "My Grades"). The following code will be used:

A+	high Distinction (80,100)
A	Distinction range(70,80)
B+	in the high Merit range (65,70)
B-	in the low Merit range(60,65)
C+	in the high Pass range (55,60)
C-	in the low Pass range (50,55)
D	in the upper Fail range, accumulating as possible as Condonable Pass (40,50)
F	Fail (<40)

Please note that the D mark is considered condoned pass. As such, where a student has been awarded a compensated pass, they cannot re-attempt that module unless they are required to (see Award of the MSc in Statistics degree above).

https://www.imperial.ac.uk/media/imperial-college/administration-and-support-services/registry/academic-governance/public/regulations/2024-25/Regulations_for_Taught_Programmes_2024_25-v1.0.pdf

Past exam papers

Past examination papers will be made available for exam-based modules, usually on the module page on Blackboard, our Virtual Learning Environment.

For modules which are shared with BSc/MSci students of the Undergraduate Mathematics program, past exam papers are available on Blackboard Maths Central in Examinations Information section.

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

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

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

Instruction to Candidates for Examinations

When taking examinations, students must ensure they follow the relevant instructions and guidance provided to them. In addition to the Instructions for Candidates, they must adhere to the specific instructions for each exam as provided by their programme team.

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

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 for 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 university. This includes plagiarism, self-plagiarism, collusion, exam offences or dishonest practice. Full details of the policy can be found at:

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

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."

Imperial College London Guidance on the use of generative AI tools (e.g. ChatGPT)

Several natural language processing AI models have come to prominence in recent months, such as generative AIs like ChatGPT. These models demonstrate a huge step forward in accessible AI which will develop substantially and quickly; likely growing to become something we use frequently in our everyday lives.

For staff and students, these AI models present both opportunities for our education and risks for the integrity of our assessments.

The perceived ability of these software to 'do our work for us' has prompted concern for the implications for academic integrity should students submit AI-generated work as their own. The focus on problem-solving in STEMMB subjects and the range of Imperial's assessment types limit the capability of these AI models being able to produce highly refined answers to our assessments, but the impact that will have on quality assurance is still a concern.

- AI models are powerful and can be an effective way to check the quality of your written work, prompt new ideas, or generate simplified explanations of complex topics to support your learning.
- Submitting work and assessments created by someone or something else, as if it was your own, is plagiarism and is a form of cheating and this includes AI-generated content. Please refer to the university's Academic Misconduct Procedures for further information.
- To ensure quality assurance is maintained, departments may choose to invite a random selection of students to an 'authenticity interview' on their submitted assessments. This means asking students to attend an oral examination on their submitted work to ensure its authenticity, by asking them about the subject or how they approached their assignment. Being invited to an authenticity interview does not mean that there is any specific concern that you have submitted work that is not your own.

For further information please see the university's Generative AI Tools Guidance. Further detailed will also be shared with you during the Induction week.

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 university such as the Library Services learning support webpages at:

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

For group work, all members have responsibility for the integrity of the work submitted. Therefore, if plagiarism (or another form of academic misconduct) is proven, all group members may be liable for any penalty imposed.

Imperial requires you to complete mandatory training on plagiarism awareness. You can access this training online via the Early Career Researcher Institute's website:

www.imperial.ac.uk/students/academic-support/graduate-school/professional-development/masters-students/plagiarism-online/

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/digital-education-services/digital-education-platforms/turnitin/turnitin-for-students/

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 initially under the Academic Misconduct procedure. Please be aware that this includes working with others in or outside the Imperial community, not just students on your programme.

You should note that whilst Imperial 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 those that are considered an attempt to gain an academic advantage. 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 gain an academic advantage 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, contract cheating, purchasing essays or other materials from other sources (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.

4. Board of Examiners

Board of Examiners

Lecturers from the Statistics Section.

External Examiner

Richard Everitt, University of Warwick

An External Examiner is normally an experienced member of academic staff from another Higher Education Institution, that acts as a critical friend to the staff delivering your programme of study. For some programmes, one of the External Examiners could be an industry expert to provide the professional expertise needed to support the programme. External examining is an essential part of Imperial's quality assurance and enhancement process, ensuring that academic standards are maintained. The knowledgeable and independent views of external examiners are invaluable in certifying that the university's awards are appropriate, of comparable standard to the rest of the sector, as well as highlighting good practice and/or 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. If there is a specific issue that needs to be resolved, please see the Student Complaints Policy and Procedure.

A university 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/

Please note that you will need to be logged in to your Imperial account to access the summary reports. The individual External Examiner reports for your programme/department are available from your department.

5. 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:

South Kensington Campus

Huxley Building, 180 Queen's Gate, London SW7 2AZ

- MSc Computer/Common Room – 215 Huxley Building (level 2)
- Maths Learning Centre – 416 Huxley Building (level 4) (contains 64 computers, two study desks fitted out with audio-visual facilities for project presentations, two printers and a range of additional study areas)
- MSc Silent Study Room – 413 Huxley Building (level 4)
- The MSc Administrator Office – 627 Huxley Building
- Lockers - Lockers for student use are located on level 1 of Huxley Building.
- To use a locker you must register with the Technical Services Manager Martin Cooper mailto:martin.cooper@imperial.ac.uk, who will then allocate you a locker to use. Details of the registration process will be sent out by email in the first week of the academic year.

Computer access and printing is available at level 6. The Department's postgraduate office is located at level 6 and open from 9 – 4:30 pm weekdays.

If you notice any facility defects or maintenance issues, please contact the Customer Services Centre (CSC):

www.imperial.ac.uk/estates-facilities/customer-services-centre/

Library Services

The Abdus Salam 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. Further study space is available on level 3 of the Sherfield 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 workshops and 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 their collection of almost 567,000 titles. If they don't have what you need, they can get it for you, simply ask them to buy it or request a copy through their free Document Delivery service.

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

www.imperial.ac.uk/library

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 Imperial ID card to board. You can download the timetable and check the latest service updates at:

www.imperial.ac.uk/estates-facilities/travel/shuttle-bus

Maps
Campus maps and travel directions are available at:

www.imperial.ac.uk/visit/campuses

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

www.accessable.co.uk/organisations/imperial-college-london

Smoke-Free Policy
All Imperial campuses and properties are smoke-free. This means that smoking and the use of e-cigarettes, including vapes, by staff, students or visitors is not permitted on or within 20 metres of Imperial. The policy covers all university properties, including student accommodation and sports grounds.

www.imperial.ac.uk/smoke-free

SafeZone
SafeZone is an Imperial app through which you can quickly and directly contact the Community Safety and 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 Community Safety and 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 Imperial 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 university shuttle bus.

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

All existing phone numbers for the Community Safety and 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.

6. Working while studying

If you are studying full time, Imperial 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 university working hours.

Working in excess of these hours could impact adversely on your studies or health.
7.
If you are here on a 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.

www.imperial.ac.uk/students/international-students/visas-and-immigration/working-in-the-uk/work-rules-during-your-studies/?

If you are enrolled on a one-year full-time postgraduate programme, you are permitted to work full-time during the university Christmas and Easter closure period, as well as after the official course end date. Please note that one-year full-time postgraduate students are not considered on vacation during the summer months. You can only work full-time during the summer if you are undertaking an assessed work placements that is a formal part of your programme.

www.imperial.ac.uk/students/international-students/visas-and-immigration/working-in-the-uk/work-rules-during-your-studies/

If you are considering part-time work during term time you are strongly advised to discuss this with your supervisor or Personal/Senior Personal Postgraduate Tutor (see Wellbeing, Support and Advice section for more information). If you are on a Student Route visa you should also seek advice from the International Student Support team regarding visa limitations on employment.

The university's Board of Examiners 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. Imperial still encourages students to wear face coverings in crowded areas, to get fully vaccinated, to cover your coughs and sneezes, and to respect others' personal space. All staff and students are advised to stay at home if you are feeling ill or have any symptoms of respiratory disease.

The latest Imperial guidance to students can be seen at:

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

The Imperial 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

131 Huxley, Level 1

0207 594 8544

martin.cooper@imperial.ac.uk

You may be required to complete inductions and attend training sessions to safely complete this course. These include:

- Safety induction

There is also a wide range of eLearning micro-learning modules focused on specialised topics and designed to raise awareness of hazards and control measures for working safely in hazardous areas (i.e., laboratories and workshops) across the university.

Imperial 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 university's activities range from the use of hazardous materials (biological agents, chemicals, cryogens, gases and ionising/non-ionising radiation) to field work, heavy or awkward lifting and driving.

All of Imperial's 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 university 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/safety-by-topic/accidents--incidents/

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

Imperial's 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 university is respected, protected and improved whilst at work.

www.imperial.ac.uk/occupational-health

9. University Policies and Procedures

Academic Regulations

All registered students of Imperial are subject to the university Academic 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

Modules within the MSc involve one or more coursework assignments that are handed in during term time. Marked coursework assignments are returned to the students two weeks after submission via Blackboard. Each module lecturer also will hold a weekly office hour. Students are encouraged to make use of these office hours.
Provisional examination marks (to be ratified by the Board of Examiners) will be made available in July.
Please note that your examination scripts once completed belong to the university under the General Data Protection Regulations (GDPR). Please see the Imperial GDPR webpages for further information at:

www.imperial.ac.uk/admin-services/secretariat/policies-and-guidance/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

Late Submission Policy

You are responsible for ensuring that you submit your assessments (including timed 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/marking-and-moderation/Late-submission-Policy.pdf

Department Late Submission Policy:

If an assignment is late but within 24 hours of the deadline, the mark will be capped at pass mark. Assignments received after 24 hours will get no marks.

If an assignment is late for technical issues with the submission system, penalties may be waved. Please provide detailed evidence with time stamps to the admin team and course director.

If an assignment is late due mitigating circumstances, please submit your assignment as soon as possible. No further action is necessary, and your claim will be considered by the mitigating circumstances panel.

Extension Requests: Course work extension requests should be submitted ahead of the deadline. No requests will be accepted after the deadline of the coursework.

If you submit late due to mitigating circumstances, the cap on your mark may be lifted if a claim for mitigating circumstances is accepted.

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 when 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 university'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 to you complete your studies within the same academic year (rather than over the summer holiday or in the next year).

Your department will have specific instructions for making a claim for mitigation or for requesting an extension.
Extension requests and Mitigating Circumstances must be submitted via this Zinc link .

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 university's Misconduct Policy and Procedures.

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

Unsatisfactory Engagement

Unfortunately, for a variety of reasons, sometimes students struggle to meet the university's expectations with regards to their engagement with their studies. Imperial has a process to identify and support students by reaffirming these expectations with an action plan. If a student does not engage satisfactorily 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

Fitness to Study

Imperial expects students to participate within the university community, such as by fully engaging and studying to the academic level required and working and living cooperatively. If there are concerns that a student is unable to engage as expected, due to an underlying physical and/or mental health difficulty, the university has a process to ensure that decisions about a students' ability to study are made through a supportive, timely and transparent process which operates in the best interests of the student:

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

Mutual Expectations

The mutual expectations document provides a suggested starter list of expectations that master's students and their project supervisors might expect from each other. It is designed to facilitate conversations to establish effective partnerships and it is recommended that the document is discussed at the first meeting between a main project supervisor and a new student. It should be noted that this is not exhaustive, and that departments may have variations in roles and responsibilities; supervisors should be aware of any such variations and will feed this into their discussions with students. Further, it is recognised that supervisors may not always be best placed to meet all the expectations laid out in the document, but should be aware of who, in their department, can. Students and project supervisors are encouraged to discuss, tailor and personalise the document further to suit. It is also recommended that students and their project supervisors re-visit the document throughout the duration of the project.

The Mutual Expectations document is available here:

www.bb.imperial.ac.uk/bbcswebdav/xid-12494962_1

Academic Appeals Procedure

We have rigorous processes and procedures 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 university, 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

The ICU Advice service can help you with understanding this policy and supporting you through the process.

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 Assessment Records team in Registry. You may not request 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

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

If you have any concerns about your experience at Imperial 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

Imperial 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 the Student Code of Conduct has been committed. The general principles of the Student Disciplinary Procedure are available on the university website:

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

Intellectual Property Rights Policy

Imperial's Intellectual Property (IP) policy governs the ownership and management of universities Intellectual Property and its College's discretionary Reward to Inventors Scheme.
Further guidance on the Imperial Intellectual Property Rights Policy is available on the university 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/

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. Imperial will provide support and guidance, but you do have a personal responsibility to comply.

In line with the above please see the university's Privacy Notice for Students which form part of the Terms and Conditions of registration with Imperial.

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

Your 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.

Mathematics Department PG Senior Tutor

Dr Gunnar Pruessner
6M32 Huxley Building
020 7594 8534
g.pruessner@imperial.ac.uk

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.

Olivia Adu-Bofour
654 Huxley Building
020 7594 8500
o.adu-bofour@imperial.ac.uk

More information on Departmental Disability Officers is available at:

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

Department Student Wellbeing Adviser

Rothna Akhtar
652 Huxley Building
r.akhtar@imperial.ac.uk

As Student Wellbeing Adviser, Rothna provides wellbeing support for both undergraduate and postgraduate students in the Department of Mathematics. She is there to provide confidential one-to-one guidance to discuss any wellbeing concerns or issues and agree next steps, helping you to manage your wellbeing during your time at Imperial.

Book a one-to-one session with a wellbeing adviser (qualtrics.com)

Postgraduate coaching

As well as professional development opportunities, the Early Career Researcher Institute has a dedicated coaching programme designed to help you through challenging times. The **Postgraduate student coaching programme** has been established to provide an opportunity to talk, independently from your academic department, about challenges you may be experiencing during the course of your studies. The programme primarily focuses on building effective working relationships and there may be other self-development issues that you can explore with a trained coach.

The Mathematics Department Coach:
Mrs Rula Murtada
r.murtada@imperial.ac.uk

www.imperial.ac.uk/students/academic-support/graduate-school/wellbeing-and-support/coaching/

Attributes and Aspiration Short Course

Attributes and Aspirations (AA) is an online short course that supports you to develop career planning and transferable skills. AA is flexible, has no assessments and can be accessed whenever you need it allowing you to proactively plan for your future. You can also use AA to develop key skills such as critical thinking, problem solving and time management. These will help you be a better student and are essential for your future - whether you choose to move to further study or to a job in industry.

AA is designed specifically for Imperial master's students. The Postgraduate Education Team worked with the Careers Service to design AA so that it works for you. We researched and talked to organisations that hire master's students, PhD course coordinators and alumni to make sure the skills and techniques taught in AA are those that you really need for your professional future. For further information, please see the AA web pages.

www.imperial.ac.uk/students/attributes-and-aspirations

Your Union

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

Imperial College Union Advice Service

The ICU Advice Service delivers free, confidential, and impartial advice covering academic issues, complaints and disciplinaries, College accommodation, and internal and external signposting. Contact the ICU Advice Service 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 Imperial.

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. They take a year out of their studies and work full-time at the Union, representing the voices of students in the Union, the university 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

The Student Hub brings together information on many of Imperial's key administrative services in one easily accessible place. The staff in the Hub can provide general advice and information on a wide range of aspects of life at Imperial, including your student records and enrolment (letter of registration for proof of your student status, transcripts and awards), fees and finance, accommodation and international student queries. If your query needs specialist guidance, the Hub team will sign-post you to other university student support services as appropriate.

The Hub is on hand to answer your questions in person (at our desks in South Kensington and White City), by email, phone or online through the ASK Student Hub service.

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

Centre for Academic English

The goal of the Centre for Academic English is to ensure you develop both the ability and the confidence to excel as a communicator on your degree programme as well as in the workplace. From the very beginning of your degree and all the way through, we're here to help you realise your potential.

To achieve this, we've designed a flexible academic STEMM communication programme enabling you to create your own personalised learning pathway. As you build your pathway, you'll have the freedom to select the resources you need wherever you need them. These resources are the result of close collaborations with departments and so will meet your communication needs for Imperial written and spoken course assignments.

To find out more about what is available for you, visit the Centre for Academic English website.

Centre for Academic English

Level 3, Sherfield Building, South Kensington Campus

english@imperial.ac.uk

www.imperial.ac.uk/academic-english

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

15 Prince's Gardens, 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 Student Support

020 7594 8040

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

Careers Service

Level 5, Sherfield Building, South Kensington Campus

020 7594 8024

careers@imperial.ac.uk

www.imperial.ac.uk/careers

Accommodation

Information and guidance around private housing and private halls for PG students is available from the Student Accommodation Office. Online you can find a Private Housing Masterclass that guides you through each step of your private housing search. The team also hosts private housing events, pop-ups and contract-checking services.

Level 3, Sherfield Building, South Kensington Campus

020 7594 3300

accommodation@imperial.ac.uk

www.imperial.ac.uk/students/accommodation/prospective/pg/

www.imperial.ac.uk/students/accommodation/private-accommodation/

ICT and software

ICT Service Desk

Abdus Salam 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 Imperial. 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 and Transport for London, as well as other external bodies.

The team are 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 'My Documents' online portal allows you to access your documents, including proof of enrolment and award documentation. You can then digitally share these documents with third parties such as an employer or university.

Each document has a unique QR code with the official university watermark, making it easier for employers and others to verify your credentials. This online document sharing is a legitimate service, introduced and authorised by Imperial.

We would like to encourage you to use this online service in place of paper-based documentation. You can access the 'My Documents' portal here:

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

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

www.imperialcollegeunion.org/activities/a-to-z

Move Imperial

Imperial 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/

For an annual fee 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 Move More campaign, more information can be found at:

www.imperial.ac.uk/sport/get-active/move-more-programme/

13. Student feedback and representation

Imperial and Imperial College Union are 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.

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/representation/a-to-z

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. Imperial good practice guidelines for staff-student committees are available here:

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

14. Student Surveys

Your feedback is important to your department, university and Imperial College Union. Whilst there are a variety of ways to give your feedback on your university 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. The questionnaire is open to students across all years of study and runs at the end of the autumn, spring and summer terms.

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

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/pg-student-surveys

15. And finally

Alumni services

When you graduate you will be part of a lifelong community of over 250,000 alumni, with access to a range of exclusive benefits including:

- discounts on further study at Imperial and at Imperial College Business School
- an alumni email address
- networking events
- Library membership and access to a bank of online resources, webinars and events via our alumni platform Imperial Plexus
- careers support for up to three years after you graduate as well as networking opportunities and professional development events
- access to our Alumni Visitor Centre at the South Kensington Campus, a co-working community space with free Wi-Fi, a bookable meeting room and complimentary refreshments

Visit the alumni website to find out more about your new community, how to access your benefits, and how to get in touch with fellow alumni around the world.

www.imperial.ac.uk/alumni

Opportunities for further study

After you have completed the MSc in Statistics you may choose to continue with a PhD in Statistics at the Department of Mathematics. For further information visit:

https://www.imperial.ac.uk/mathematics/postgraduate/doctoral-programme/.