MRes in Stochastic Analysis and Mathematical Finance
Student Handbook

Department of Mathematics

2015-16 Academic Year
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List of modules
  Core Modules:
    Autumn term:
      M5MR1: Stochastic integrals: an introduction to Itô calculus (Prof. R. Cont)
      M5MR4: Stochastic processes (Dr. T. Cass)
    Spring term:
      M5MR5: Advanced methods in derivative pricing (Dr. A. Jacquier)
M5MR2: Advanced topics in stochastic analysis (Dr. T. Cass)  
M5MR10: Algorithmic trading and machine learning (Dr. G. Di Graziano and Dr. S. Ramaswamy)  
M5MR9: Dynamic portfolio theory (Dr. H. Zheng)  
M5MR6: Introduction to machine learning (Dr. J. Sirignano)  
M5MR7: Lévy processes: Theory and Applications (Dr. M. Pistorius)  
M5MR8: Simulation methods for finance (Dr. H. Zheng)  

Summer term:  
M5MR3: Advanced topics in mathematical finance (Nonlinear valuation under credit gap risk, initial and variation margins and funding costs) (Prof. D. Brigo)  

Optional Modules:  
London Graduate School in Mathematics and Finance,  
M5P7 Functional analysis (Dr G. Holzegel)  
M3M3 Introduction to partial differential equations (Prof J.A. Carrillo de la Plata)  

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Code of Student Discipline  
Complaints and Appeals Procedures  
Copyright  
Intellectual Property Policy  
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Interruption of Studies:  
Mitigation / Extenuating Circumstances Policy and Procedures:  
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College Introduction

Imperial College London will:

Provide a world-class research programme
- focused on performing cutting-edge research that makes a significant contribution to the knowledge base
- throughout which internationally-acclaimed academics support, inspire and challenge you as you develop into an independent researcher
- in a vibrant and diverse community united by the aims of advancing the frontiers of science, technology, medicine and business, and addressing key economic and societal challenges

Provide innovative and effective professional development
- equipping you with skills to increase your research and personal effectiveness
- that gives you an insight into a wide range of career opportunities
- helping to ensure that you have the necessary attributes to excel in your chosen career

Deliver outstanding networking opportunities
- providing access to the elite international research community
- that arise from our extensive engagement with industry and business
- by organising a wide range of interdisciplinary meetings and social events within the College

Offer life-long membership of the Imperial community
- supporting you as a student and afterwards as an alumna/us
- enabling you to share your professional advice and experience with future students

http://www.imperial.ac.uk/study/pg/graduate-school/about-us/doctoral-proposition/
‘Our Principles’

The guiding principles of the Imperial community were developed by academic and support staff in partnership with undergraduate and postgraduate students.

These principles are defined below and further expanded here: http://www.imperial.ac.uk/students/student-support/our-principles/

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 course costs and financial support
- An appropriate and inclusive framework for study, learning and research

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

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

Welcome to Imperial College for the start of your MRes.

This handbook contains all the key information you will need to understand how the course will be structured over the next 12 months, the key dates for the submission of assessed work, what will be expected of you academically, and who are the important contacts within the Department.

Dr Thomas Cass
6M35 Huxley Building
South Kensington Campus
London SW7 2AZ
180 Queen’s Gate
Tel: +44 (0) 20 7594 8554
thomas.cass@imperial.ac.uk
Welcome from Professor Sue Gibson  
Director of the Graduate School

This year the College launched its new proposition to doctoral students. Academic Departments, the Graduate School and the Graduate Students’ Union will work closely together to ensure opportunity is provided for an excellent and internationally renowned research experience.

As part of this offer, the Graduate School has developed a programme of professional skills courses, covering a broad range of themes, for example, personal effectiveness, writing skills, presentation skills, project management and leadership skills, all of which have been tailored to suit the different stages of your research degree. Our flagship residential research skills development course is also available to all early stage research students and covers team building, research planning, communication and creativity, amongst other skills training. The skills developed during these courses are highly valued in the job market.

Graduate School courses are free of charge to Imperial research students and I would encourage you to take as many as you can to supplement your academic training. The Graduate School works closely with the Graduate Students’ Union (GSU) and is keen to respond to student needs so if there is an area of skills training, or an activity that you would like us to offer, but which is not currently provided, please do get in touch (graduate.school@imperial.ac.uk). You should regularly check the Graduate School’s website and e-Newsletters to keep up to date with all the events and training courses available to you.

The Graduate School also runs a number of exciting social events throughout the year which are an opportunity to broaden your knowledge as well as to meet other students and have fun. Particular highlights include the Ig Nobel Awards Tour Show, the Chemistry Show, the 3 minute thesis competition as well as the Research Symposium. I would encourage you to take part in these activities – there are times when it can feel lonely as a research student and these events are an opportunity to be part of the wider research student community. In addition, many of the advances in science, engineering, medicine and business occur at the boundaries between disciplines and meeting students from other Departments and Faculties offers opportunity to enrich your research.

Finally, I hope that you enjoy your studies here at Imperial, and I wish you well.

Sue Gibson
Welcome from Dr Janet De Wilde

Head of Postgraduate Professional Development

I would like to welcome you to the graduate school courses for postgraduate professional development.

The team of tutors here come from a wide variety of experiences and we understand just how important it is to develop professional skills whilst undertaking postgraduate studies and research. Not only will this development improve success during your time at Imperial College, but it will also prepare you for your future careers.

We are continually working to develop and innovate the courses we offer and over this year you will see many new offerings both face to face and online.

I encourage you to explore and engage with the diverse range of opportunities on offer from the team at the graduate school and I wish you well in your research.

Janet De Wilde
Welcome from the Graduate Students’ Union

Hello and welcome to Imperial. I’m Liucheng, the President of the Graduate Students’ Union for the 2015/16 academic year.

The Graduate Students' Union (GSU) is the representative body within the Imperial College Union for the postgraduate community across all Imperial campuses. The GSU works alongside the Imperial College Union President to ensure that the requirements of postgraduate students are catered for. The GSU also ensures that postgraduates' social and recreational needs are met and holds a number of events during the year.

Postgraduate students at Imperial are at the forefront of the research done and the experience they have as a student should be the best. Therefore, at the GSU we ensure that this happens. The work we do focuses on the academic, welfare and social needs of postgraduates.

Whether you are a Master or Doctoral Research student, you are automatically a member of the GSU. If you have any questions or would like to find out more please do not hesitate in getting in touch with me at: gsu.president@imperial.ac.uk, or visiting our website: https://union.ic.ac.uk/gsu.

Liucheng Guo
Welcome from Prof Richard Craster  
Head of Mathematics Department

Dear Colleague

Welcome to the Department of Mathematics at Imperial College. I hope that your time here as a postgraduate student is both productive and fruitful.

Best wishes with your studies.

Yours sincerely,

Prof Richard Craster  
644 Huxley Building  
South Kensington Campus  
London SW7 2AZ  
180 Queen’s Gate  
Tel: +44 (0) 20 7594 8554  
x.craster@imperial.ac.uk
Dear New MRes Students,

Welcome to the Mathematics Department at Imperial. The Department is eager to help you make your year of study a satisfying period of learning and creativity.

Please read on. Your success and comfort will depend on your familiarity with the essentials of being an MRes student. I know you may experience a degree of information overload initially. But read at least this page and keep the welcome pack within reach for reference.

1. **Engage:** Mathematics and science are social activities. Your fellow students across the department and throughout the college are wonderful resources of help, friendship, inspiration and creative stimulation, so get involved.

2. **Academic and administrative support:** The intention is that you develop a constructive, and hopefully friendly and fulfilling, relationship with the lecturers of the courses and your project supervisor.

3. **Depth and breadth:** Good mathematics and science needs the right balance between depth and breadth. One inevitably needs a thorough knowledge of ideas, methods and techniques from as broad a field as practically possible. Through breadth one may become aware of existing approaches that can turn out to be helpful when working on specific problems. Breadth is also needed in order to know what today's interesting and important open problems are. On the other hand, depth is needed to ensure that one’s level of understanding is sufficiently detailed to allow one to make creative contributions.

During your MRes study it is a good idea to attend seminars and the department colloquia, participate in discussion groups, etc. and in general feed your curiosity.

I sincerely wish the next few years may lead you to the insights and achievements you are hoping for,

Prof Henrik Jeldtoft Jensen

Room 1201, 12th floor, Electrical Engineering Building
South Kensington Campus
Tel: +44 (0)20 759 49853 Fax: +44 (0)207 594 8517
pgr.director@imperial.ac.uk
Faculty of Natural Sciences Structure

Can be found on the following link:
http://www.imperial.ac.uk/natural-sciences/departments/

Department of Mathematics
http://www3.imperial.ac.uk/mathematics

Staff Student Committee
The Staff-Student Committee is designed to strengthen understanding and improve the flow of communication between staff and students and, through open dialogue, promote high standards of education and training, in a co-operative and constructive atmosphere. College good practice guidelines for staff-student committees are available here:
http://www3.imperial.ac.uk/registry/proceduresandregulations/qualityassurance/goodpractice

Student input into teaching happens through a number of channels. On a formal basis there are Staff Student Committee meetings and Lecturer and Tutor evaluation questionnaires via Student Online Evaluation (SOLE).

Meetings of the Staff Student Committee are held once a term. In these meetings two/three student representatives from each academic year make the opinions of the students known to academic staff in an informal and non-confrontational environment. Any actions arising from these meetings are implemented by Senior Tutor, DUGS and HOTS. When introducing new elements to the course we conduct internal reviews and ask for student feedback as part of this process.

For list of committee members, please visit the Staff Student Committee page.

Academic Support
There are many formal and informal ways of obtaining support, help and advice. The formal sources open to you include, but are not limited to:

- your supervisor;
- your assessors;
- your departmental postgraduate tutor;
- your departmental Director of Postgraduate Studies;
- your departmental Safety Officer;
- your Head of Department;
- your departmental student representative;
- your faculty student representative.

The ‘roles and responsibilities’ documents on the Registry website may be a useful reference:
http://www3.imperial.ac.uk/registry/proceduresandregulations/qualityassurance/goodpractice/rolesandresponsibilities
List of key Academic/Administrative Staff in the Department of Mathematics

Postgraduate Tutors

Postgraduate tutors offer pastoral support and offer advice and if necessary they will direct you to an appropriate source of support. You can arrange to have a meeting with the postgraduate tutor at any time during your studies. Please note all meetings will be completely confidential.

Dr Thomas Cass  
thomas.cass@imperial.ac.uk  
I am the Course Director for the MRes in Stochastic Analysis and Mathematical Finance.

Prof Henrik Jeldtoft Jensen  
pgr.director@imperial.ac.uk  
I am the Director of Postgraduate Studies (DPS). I chair PG committee meetings and I am responsible for interfacing with the college and EPSRC and overall strategic opportunities. I also assists the section PG tutors and the Welfare Tutor when needed.

Dr Tony Bellotti  
pgr.welfare@imperial.ac.uk  
I am the Postgraduate Welfare Tutor in Mathematics. Please contact me if you have a non-academic problem, such as medical or financial, which is troubling you and is affecting your research work.

Dr Martijn Pistorius  
pgmathfin@imperial.ac.uk  
I am the Mathematical Finance PG Tutor. I am the first point of contact for Academic matters related to Mathematical Finance PhD studies.

Anderson Santos - PG Administrator  
Please contact me for any administrative guidance.  
 a.santos@imperial.ac.uk – Office 651, level 6, Huxley building

External examiner

The external examiner for the programme is Professor Jan Obloj of University of Oxford, will be a member of the Examination Board. Anonymity of candidates will not be used at meetings of the Examination Board.
Departmental facilities

HUXLEY BUILDING

Level 1 - Colour poster printer - room 132
  Request ICT to install it on your machine: HP Designjet Z5200ps PS3
  Ask the PG Administrator for the door code
Level 4 - Mathematics Learning Centre - 416
Level 5 - Common Room (tea, coffee, snacks) - 549
Level 6 - Staff mail room - 655A
  Stationary cupboard – 649a (with Kalra or Rosie’s permission)
Level 6M - Student mail room – 6M52

College Term dates
http://www3.imperial.ac.uk/registry/currentstudents/termdates

Health and Safety Information
As a student at Imperial are responsible for your own and others’ health and safety. The College guide to health and safety for staff and students can be found here:
http://www3.imperial.ac.uk/safety/subjects/management/safetyguide

The College Safety Department
The Safety Department helps departments and individuals ensure effective safety management systems are in place throughout the College.
http://www3.imperial.ac.uk/safety

Departmental Safety Officer
Your supervisor is the first point of contact for your health and safety enquiries and concerns. But if these cannot be addressed you should contact your Departmental Safety Officer (DSO).

Department Safety Officer: Andy Pope
a.pope@imperial.ac.uk
Room 131, 1st floor Huxley Building
Tel: 020 7594 8544 (internal: 48544)

Please visit this page for up to date information:
http://www.imperial.ac.uk/natural-sciences/departments/mathematics/about-us/safety/
Apart from some computing work carried out in the Department’s computer rooms, mathematics staff & students are involved only with office work, lectures and classes, so hazards (other than medical and fire) are few. General tidiness is important and passageways should be kept clear. Perceived dangers should be reported immediately to the Departmental Safety Officer: Mr Andrew Pope (ext 48544 – Huxley Building, Room 131).

**EMERGENCY:**

**Ambulance, First Aid or cardiac arrest (req. defibrillator):**

Dial internal extension 4444 OR 020 7589 1000 from a mobile

**TRAINED FIRST AID PERSONNEL**

**SOUTH KENSINGTON CAMPUS**

College Health Centre 40, Prince’s Gardens (Southside, Watts Way) ext 49375/6 (or 020 7584 6301 or 46301 out of hours contact for students registered with the health centre as NHS patients).

- Dr Tom Coates (Emergency First Aid at Work) Room 662, Level 6 – Huxley Building ext 43607
- Mr Martin Grune (First Aid at Work) Room 411, Level 4 – Huxley Building ext 45758
- Prof Richard Craster (Emergency First Aid at Work) Room 644, Level 6 – Huxley Building ext 48554
- Mr Mike Mussard (First Aid at Work) Room 411, Level 4 – Huxley Building ext 45758
- All Security staff (First Aid) Level 2 (Ground Level) ext. 58900/58920/48910 Sherfield Building or, 020 7589 1000

**ACCIDENTS**

All accidents must be reported on the via **Salus** (Incident reporting system) – access from the Safety Dept website front page (or [https://salus.imperial.ac.uk/AIR2/Incbook/incbook_tab_begin.aspx?First=1](https://salus.imperial.ac.uk/AIR2/Incbook/incbook_tab_begin.aspx?First=1))

**FIRE AND EMERGENCY**

When the warning sirens sound, evacuate the building at once.

All exit routes are clearly indicated and everyone should make themselves familiar with them -

**ON NO ACCOUNT SHOULD LIFTS BE USED WHEN ALARMS SOUND.**

Lecturers will advise each class on the exit to use.

To give warning of the outbreak of fire, break the glass on one of the fire alarm call points situated around the building (mainly near staircases).

Some rooms and exits have electronic locking systems after normal hours, i.e. after 1800hrs (rooms 212, 213, 410 and the Huxley level 4 Mathematics Learning Centre at all times). These will automatically unlock when alarms sound.

**FIRE WARDENS**

See the current Blackett & Huxley Fire Wardens list.

Anyone lecturing is automatically a fire warden for the group they are lecturing to.

- College Acting Chief Fire Officer, Mr Timothy Ashton ext 48907
- Sherfield Security Control ext 48910
- Mathematics Departmental Safety Officer, Mr Andrew Pope, Huxley 131 ext 48544
- Natural Sciences Faculty Safety Manager, Ms Julia Easton mobile 07714 051 270

THIS DOCUMENT TO BE DISPLAYED ON ALL NOTICE BOARDS AND PASSENGeways 08.09.2014

Departmental Health and Safety Committee
FIRST AID
Department of Mathematics

In the event of an accident or medical emergency, contact your NEAREST First Aider / Lifesaver:

**College Health Centre**
40, Prince’s Gardens
Southside, Watts Way
(South Kensington Campus)

**Dr Tom Coates**
Room 662,
Level 6 – Huxley Building

**Mr Martin Grune**
Room 411,
Level 4 – Huxley Building

**Mr Mike Mussard**
Room 411,
Level 4 – Huxley Building

**Prof Richard Craster**
Room 644,
Level 6 – Huxley Building

**All Security staff**
Level 2 (Ground Level),
Sherfield Building

First Aid Box locations: Huxley 649a, Huxley 411

If you cannot locate a First Aider within the Huxley Building, please contact College Security:

Outside of normal working hours contact College Security:

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DEPARTMENT OF MATHEMATICS
Fire Wardens during lectures: The lecturer automatically assumes the role of Fire Warden if the fire alarm activates during a lecture. The lecturer needs to ensure that those attending the lecture leave in an orderly manner via the nearest exit and go to the appropriate assembly point to await further instruction.

<table>
<thead>
<tr>
<th>Fire Wardens</th>
<th>Level</th>
<th>Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul Brown</td>
<td>Level 1</td>
<td>Blackett</td>
</tr>
<tr>
<td>Mr Andrew Pope</td>
<td>Level 1</td>
<td>Huxley</td>
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<tr>
<td>Brian Willey</td>
<td>Level 1</td>
<td>Blackett</td>
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<tr>
<td>Dave Bowler</td>
<td>Level 1</td>
<td>Blackett</td>
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<tr>
<td>Viv Frater</td>
<td>Level 2</td>
<td>Blackett</td>
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<tr>
<td>Neil Powell</td>
<td>Level 2</td>
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<tr>
<td>Malcolm Hudson</td>
<td>Level 2</td>
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<tr>
<td>Andrew Knight</td>
<td>Level 3</td>
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<tr>
<td>Stefan Hoyle</td>
<td>Level 3</td>
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<tr>
<td>Jan de Abela-Borg</td>
<td>Level 3</td>
<td>Blackett</td>
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<tr>
<td>Loli Sanchez Rey</td>
<td>Level 3</td>
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<tr>
<td>John Conway</td>
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<tr>
<td>Graham Axtell</td>
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<tr>
<td>Paul Beaumont</td>
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<tr>
<td>Robert Whisker</td>
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<tr>
<td>Kalra Taylor</td>
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<tr>
<td>Vera Kasey</td>
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<tr>
<td>Paul Dauncey</td>
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<tr>
<td>Julia Sedgbeer</td>
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<td>Graziel De Nadal Sowrey</td>
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<tr>
<td>Martin Kehoe</td>
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<tr>
<td>Jude Baylis</td>
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<tr>
<td>Sara Chesnick</td>
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<tr>
<td>John Gibbons</td>
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<tr>
<td>Chris Sisson</td>
<td>Level 6</td>
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<tr>
<td>Tim Oddy</td>
<td>Level 6M</td>
<td>Huxley</td>
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<tr>
<td>Andrew Parry</td>
<td>Level 6 M</td>
<td>Huxley</td>
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<tr>
<td>Richard Bantges</td>
<td>Level 7</td>
<td>Huxley</td>
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<tr>
<td>Paul Green</td>
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<tr>
<td>Clara Mulholland</td>
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<tr>
<td>Eva Gledhill</td>
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<td>Huxley</td>
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<tr>
<td>Alan Finch</td>
<td>Level 8</td>
<td>Blackett</td>
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<td>Robert Kingdom</td>
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<tr>
<td>Alice Powell</td>
<td>Level 8</td>
<td>Huxley</td>
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<tr>
<td>S Kena Cohen</td>
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<td>Blackett</td>
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<tr>
<td>Sam Ladak</td>
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<tr>
<td>Tyler Roschuk</td>
<td>Level 8</td>
<td>Blackett</td>
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<tr>
<td>Carolyn Dale</td>
<td>Level 9</td>
<td>Blackett</td>
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<tr>
<td>Bhavna Patel</td>
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<tr>
<td>Juraci Didone</td>
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<td>Blackett</td>
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<tr>
<td>Linda Jones</td>
<td>Level 9</td>
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</tr>
<tr>
<td>Andrew Jaffe</td>
<td>Level 10</td>
<td>Blackett</td>
</tr>
</tbody>
</table>

Physics Fire Coordinator: Simon Graham  s.graham@imperial.ac.uk  020 7594 7870
Maths Fire Coordinator: Kalra Taylor  k.taylor@imperial.ac.uk  020 7594 8483

Information on fire wardens and College fire safety requirements can be found here:  http://www3.imperial.ac.uk/safety/policies/individualpolicies/firesaf
<table>
<thead>
<tr>
<th>Monday 5 October</th>
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<tbody>
<tr>
<td>9:45am – 10:15pm</td>
<td><strong>Maths Learning Centre Induction</strong>&lt;br&gt;Ann Brew</td>
</tr>
<tr>
<td>10:30am – 11:30am</td>
<td><strong>Mathematics and Finance Introductory Talk</strong>&lt;br&gt;<em>Dr Antoine Jacquier</em> – MSc Programme Co-ordinator&lt;br&gt;<em>Attendance by MRes and MSc students</em></td>
</tr>
<tr>
<td>12:15pm – 1pm</td>
<td><strong>Expenses Claim (RTSG) + Room allocation + PWP + PhD Progression</strong>&lt;br&gt;Anderson Santos – PG Administrator</td>
</tr>
<tr>
<td>2pm – 2:45pm</td>
<td><strong>Introduction to SIAM Chapter Activities + student reps</strong>&lt;br&gt;With students’ representatives</td>
</tr>
<tr>
<td>2:45pm – 3:30pm</td>
<td><strong>College Tour</strong>&lt;br&gt;Given by current PhD students</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Tuesday 6 October</th>
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<tbody>
<tr>
<td>11am – 12am</td>
<td><strong>Safety Induction</strong>&lt;br&gt;Health and Safety team</td>
</tr>
<tr>
<td>12:45pm – 1:15pm</td>
<td><strong>Professional Skills Development Programme – Graduate School</strong>&lt;br&gt;<em>Dr Elena Forasacco</em></td>
</tr>
<tr>
<td>2pm – 2:30pm</td>
<td><strong>Centre for Academic English</strong>&lt;br&gt;<em>Dr Julie Hartill</em> – Deputy Director of CfAE&lt;br&gt;<em>Non-native speakers of English (only)</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wednesday 7 October</th>
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<tbody>
<tr>
<td>10am – 11am</td>
<td><strong>MRes Stochastic Analysis and Mathematical Finance - Induction</strong>&lt;br&gt;<em>Dr Tom Cass</em> – MRes Programme Co-ordinator</td>
</tr>
<tr>
<td>4pm – 6pm</td>
<td><strong>SIAM Mingle</strong>&lt;br&gt;Free food and drinks with the student chapter</td>
</tr>
</tbody>
</table>

Take a look at a number of social events organised by the Imperial Students Union. Please visit their events webpage and select the dates on the calendar.
Funding for Conferences

Research Training Support Grant (RTSG) – also known as ‘consumables’ – is an annual allowance, managed by the department, against which PhD students can claim training-related expenses (e.g.: books, conferences expenses and equipment directly related to their research project).

Students should check their scholarship scheme letter to confirm their annual RTSG allowance.

In doubt, please contact the PG Administrator.

1. Students are expected to keep track of their annual claims, by logging them to the RTSG spreadsheet provided by the PG Administrator during induction week.

2. Expenses can be claimed on the E1 form. There is also the advance claim E3 form. [http://www3.imperial.ac.uk/finance/sections/accountspayable/forms](http://www3.imperial.ac.uk/finance/sections/accountspayable/forms)

3. All expenses claim forms need to have the supervisor(s) and the student’s signatures.

4. The forms need to be submitted to the PG Administrator.

Laptop Purchase - General Guidance for Mathematics PhD Students

In the beginning of every academic year, the department bulk orders Windows operating laptops. PhD students are encouraged to take advantage of this discounted price, by letting the PG Administrator know that they are interested in placing an order for a laptop (description at the end of the document).

Research Training Support Grant (RTSG) – normally, laptop costs are covered by RTSG – also known as ‘consumables’– is an annual allowance, managed by the department, against which PhD students can claim training-related expenses (e.g.: books, conferences expenses and equipment directly related to their research project). Please check your scholarship scheme below to confirm your annual RTSG allowance.

Students progressing from Imperial MRes or CDT

Imperial students progressing from MRes and CDT students coming from a partner Institution, normally get a laptop in their first year; therefore, this policy does not apply.

Please contact the PG Administrator if this is not the case.

Joint-PhD / Split-PhD / Part-time and Self-funded

These students are also entitled to an annual £1,000 RTSG, pro-rata for part-time students and students who spend only part of the academic year at Imperial.
Imperial College PhD Scholarship

Students on Imperial College PhD Scholarship scheme are **NOT** allowed to claim laptop expenses from their £2,000 consumables allowance. The Scholarships Office advises these student to cover such expenses from their bursary.

EPSRC Scholarship – Doctoral Training Partnership Scheme

As an EPSRC scholarship includes provision of a laptop, on top of RTSG (normally in their first year of study), students getting the scholarship do not have to cover laptop costs from their annual RTSG.

Departmental/Faculty Scholarships:

- Roth / Admin-Roth / NERC-Roth / Mini-DTC / Stats Section / AMMP Section / Schrodinger

The above named scholarship schemes provide £1,000 annual RTSG allowance, against which students can claim their laptop expenses.

Other Scholarships

Students who are getting other scholarships, for example Banking Postgraduate Studentship/ Science without Borders Scholarship, etc., will have to check their funding agreement document for RTSG and a laptop provision details. If a funder does not provide RTSG allowance, the student will be entitled to £1,000 annual RTSG (covered by the Department of Mathematics).

Purchase options

**Option 1 – EPSRC Doctoral Training Partnership Scheme**

A. Full HP laptop cost is covered by the scheme – laptop funds are separate from EPSRC RTSG allowance.

B. If MacBook is the preferred option, then the exceeding amount will be paid by the student to the department account.

**Option 2 - Imperial College PhD Scholarship Scheme**

Students on this scheme wishing to take part in the department order, will need to pay the full cost of the laptop (MacBook or HP) into the department account.

**Option 3 – Other scholarship schemes**

A. Full HP laptop cost will be covered by RTSG allowance.

B. If MacBook is the preferred option, then the exceeding amount will be paid by the student to the department account.

C. Students who do not wish to purchase a laptop, will be able to use their RTSG allowance to cover their other research related activities (e.g.: books, conferences expenses and equipment directly related to their research project).
Option 4 – later purchase (any scholarship scheme)

Students who would rather purchase a laptop (MacBook or HP) later in their study, can do so, provided it is before the end of their second year of study.

*Desktop Computers – We do not normally provide PhD students with a desktop computer, unless required by their research and approved by a supervisor. Please speak to the PG Administrator if this is a case.*

**Laptop model and price**

**HP Total cost = £751.12 (incl. VAT)**

HP Professional Backpack Case – cost £30.34 (incl. VAT)
HP USB 1000dpi Laser Mouse – cost £9.72 (incl. VAT)
Laptop model: HP 650 G1 - cost £711.06 (incl. VAT)
• Microsoft Windows 8.1 Pro 64 Ed UK
• 15.6 inch LED HD SVA Anti-Glare enabled for WWAN enabled for Webcam flat (1366x768)
• 8GB 1600MHz DDR3L 1DM
• Intel Core i5-4210M Dual Core
• WEBCAM Integrated 720p HD
• 256GB SATA-3 Three Layer Cell Solid State Drive
• DVD+-/RW SuperMulti DL
• Intel 7260 ac 2x2 +Bluetooth 4.0 WW
• Core i5-13 BLU Label
• HP 3 year Travel Next business day Onsite with Accidental Damage Protection G2 Notebook Only SVC

**MacBook Total cost = £1,228.35 (incl. VAT)**

Summit insurance – 3 years cover for all risks = £213.15 (incl. VAT)
Laptop model: 13-inch MacBook Air – cost £1,015.20 (incl. VAT)
Hardware
• 1.6GHz Dual-Core Intel Core i5, Turbo Boost up to 2.7GHz
• Intel HD Graphics 6000
• 8GB 1600MHz LPDDR3 SDRAM
• 256GB PCIe-based Flash Storage
• Backlit Keyboard (British) & User’s Guide (English)
• Accessory Kit
Software
• Pages, Numbers, Keynote
• Photos, iMovie, GarageBand
• OS X
Programme information

Overview: Aims, objectives and learning outcomes

The MRes is a 12-month course, which provides a high-level training in Mathematical research for students who will most likely go on to pursue a PhD. The programme you will follow has been tailored to equip you with the skills you need to begin research in topics of contemporary interest. You will attend and take examinations in advanced level courses, learn to write on mathematics research topics and receive the opportunity to give seminar-level presentations. You will also undertake and complete a substantial dissertation on a topic suggested by your project supervisor.

The focus of MRes is in stochastic analysis and mathematical finance, these are two economically important area of mathematical research in which the Mathematics Department at Imperial College has established strengths. Mathematical finance is a subject area with a long history stretching back decades. Recent years have witnessed an explosion in research activity, largely driven by demand from the global finance industry. Many exciting problems emerge in the field all the time, and the subject is an important crossing point for mathematicians from different backgrounds giving them the opportunity to collaborate. The modern foundation of the theory can be traced back to the seminal 1973 paper of Black and Scholes. Their key observation, that certain types of financial risk can always be perfectly hedged, underpins today’s options pricing industry. It is one of the finest examples of mathematics applied to the field of commerce.

The department offers expertise in many leading-edge issues in the area including implied volatility, Levy processes, stochastic optimal control, and the theory of backward stochastic differential equations. As well as topics such as systemic risk, credit derivatives, risk measures, and the challenges posed by financial regulation, all which have been given impetus after the 2008 crisis.

A key mathematical tool is the discipline of stochastic analysis, which constitutes a second focus for the MRes. The theory has been developed into a coherent body of knowledge over the last seventy years or so, and is now an essential toolkit for anyone who aims to model and understand randomly-evolving real-world phenomena. An example is Ito’s theory of stochastic calculus, which gives a precise mathematical theory of integration with respect to random, and possibly highly irregular, paths such as the sample paths of Brownian motion. The so-called stochastic differential equations based on this calculus provide a fundamental modelling framework for random systems in finance, engineering, computer science and biology.

Stochastic analysis is the cornerstone of much applicable research, and the department offers world-leading expertise in a range of subjects from stochastic filtering, functional Ito calculus, the theory of rough paths, to stochastic simulation methods.
Structure and assessment

There are two assessed elements to the MRes, which will contribute to the eventual total with the weightings indicated below.

1. Taught element (25% of total marks for the MRes)
   The assessment for this element comprises:
   - **Examinations.** You must attend three lecture courses from the list (below) of Core Modules. Each module will run in one of the three terms, and assessment will usually be by written examination, but could also include a small project or coursework, or an oral examination. You must register for any examination you wish to take by e-mailing the Course Administrator. Registration must occur by the penultimate week of the term in which you attend the course.

   In addition to the Core Modules, you must attend two Optional Modules chosen from the list below. For example, you might want to select them to develop an interest in a new area, or to support the research project you will undertake as part of the research element (see below). More information on the courses titles, their contents and timing can be found below in the detailed course descriptions.

2. Research element (75% of total marks for the MRes)
   A substantial part of your study programme will be an extended research project. This is a piece of work that runs throughout the year, and will involve you writing a dissertation under the supervision of an academic in the Department. Some students starting the MRes will already have had contact with a potential supervisor, others will not. You should speak to the Director about your interests at the start of the first term; he or she will be able to suggest literature to read and academic members of staff with similar interests to whom you could discuss further. At the end of the fourth week of term we will expect you to have identified a supervisor.

   The topic will concern an exciting area of current mathematical interest, usually in which your supervisor is working, and in which he/she will provide expert guidance. In the process you will develop proficiency in important aspects of research. You will learn how to read and synthesise mathematical literature, you will gain experience in mathematical and scientific writing, and you will develop your communication skills ideas by giving presentations based on your findings.

   The development of these skills will be supported throughout by a variety of courses, reading groups, lectures and seminars.
   - A lecture on Reading Scientific Literature.
   - Regular weekly seminars in mathematical finance and in stochastic analysis will run throughout each term, and you will be expected to attend.
   - Subject-specific reading groups: the Course Director will be able to give you more information about the arrangements for these meetings.
   - Exercises in scientific writing and scientific presentation.
   - Short courses offered by the Graduate School
At the start of the first term you will be expected to find a supervisor to work with on the dissertation. In the first week of the year, there will be an introductory session in which members of the academic staff introduce themselves and their research interests. You should be active in approaching potential supervisors to discuss possible topics for the dissertation. At the end of week 4 of the Autumn Term, you will need to decide who will be your project supervisor. Your supervisor will recommend an academic paper to read and, by the end of week 9 of the Autumn Term, you will need to write a summary and critique the contents of this paper. The purpose of this first term writing exercise is to both to initiate progress on your research topic, and to identify any weaknesses in your writing skills which need to be addressed. Your report will be assessed by your supervisor and a second marker. It will count 5% towards total marks available in the research element.

An important staging post for the research project is the Preliminary Report, which you must submit by 20th March. This will be a document, of no more than 4000 words, which consists of a literature review together with a plan for the development of the rest project. The report will be marked and you will make a 20-minute oral presentation on its contents. The final dissertation will be a much more substantial piece of work, with an upper limit of 30,000 words. The deadline for submitting the dissertation is 15th September. You will again make a 20-minute oral presentation, which will be immediately followed by questions from two members of staff who are familiar with your research area. The contribution of these different components is summarised below.

1. **First term writing exercise** (5%): Deadline end of week 9, Autumn Term. A written report of around 5 pages summarising an academic paper based on ideas close to the intended project area. If a student shows signs of poor fluency in reading or scientific writing, help will be given at this stage.

2. **Preliminary report** (10%): Deadline 20th March. A written report consisting of a literature review and outlook; the report should be a maximum of 4000 words. Assessment will be split between the written report (90%) and a 20-minute oral presentation (10%), which will take place shortly after the submission date (above) of the written report. You will deliver the oral presentation in front of other students and members of the academic staff.

3. **Research project** (85%): This component comprises:
   a. **The final dissertation** (75%): Deadline 15th September. A written dissertation up to a maximum of 30000 words.
   b. **An oral examination based on final dissertation** (10%) You will prepare a 20-minute oral presentation in front of two academic members of staff. It is expected that this will take place in the two weeks following the submission of the dissertation; you will be informed of precise arrangements closer to the time. The presentation will be followed by questions. You will be assessed on both on the quality of your presentation and your ability to answer questions on it.
Penalties for late submission
The College’s policy on the late submission of assessed work can be found here:
https://workspace.imperial.ac.uk/registry/Public/Exams/PenaltiesLateSubmissionAssessedWork-Feb%202014.pdf

Re-sit policy
The programme follows the College Academic and Examination regulations which permit re-entry to written examinations only on one occasion. This will be at the next available opportunity (usually the following academic year).
Regulations for the award of Taught Master’s Degrees, Postgraduate Diplomas and Postgraduate Certificates

Mitigating circumstances
If you are prevented from submitting an assessment or attending an examination because of mitigating circumstance (e.g. illness or bereavement), you must submit a Request for Mitigation Form to the Course Director and Course Administrator within five working days of the deadline that has been missed.
The College’s policy on the handling of mitigating circumstances, together with the Request for Mitigation Forms can be found here:
https://workspace.imperial.ac.uk/registry/Public/Exams/MitigatingCircumstancesPolicyProcedures-Feb%202014.pdf

Feedback
Informal feedback will be given by verbally supervisors after each assessment. The candidate will receive provisional marks on the assessments they have taken in July.

Marking scheme
Any candidate who achieves less than 40 per cent in a component or module will be deemed to have failed that component or module. Where appropriate, a Board of Examiners may condone any mark(s) in the range 40-50 in some components or modules provided the aggregate for that element is above 50 per cent.

Subject to there being no mark in any module or component which fails uncondonably, a candidate must achieve at least 50 per cent in each element in order to pass the MRes; in order to be awarded a result of a merit, a candidate must achieve at least 60 per cent in each element; in order to be awarded a result of distinction, a candidate must achieve at least 70 per cent in each element.

Where appropriate, a Board of Examiners may award a result of merit where a candidate has achieved an aggregate mark of 60 per cent or greater across the programme as a whole AND has obtained a mark of 60 per cent or greater in each element with the exception of one element AND has obtained a mark of 50 per cent or greater in this latter element.

Where appropriate, a Board of Examiners may award a result of distinction where a candidate has achieved an aggregate mark of 70 per cent or greater across the programme as a whole AND has obtained a mark of 70 per cent or greater in each element with the
exception of one element AND has obtained a mark of 60 per cent or greater in this latter element.

A link to the College’s Academic and Examination regulations may be found here: http://www3.imperial.ac.uk/registry/proceduresandregulations/regulations

Programme webpage and specification
Follow the link to view:
- The departmental course webpage
- The programme specification

Religious obligations and assessments
The College’s policy on such matters can be consulted by following the link below: https://workspace.imperial.ac.uk/registry/Public/Exams/Exams%20and%20religious%20obligations.pdf

Plagiarism and Examination Offences
The College takes plagiarism and other matters of academic foul play extremely seriously, and offenders are liable to be punished severely. Plagiarism is the presentation of another person’s thoughts or words as though they were your own, or submitting work that is not your own. It is an academic offence under the College’s rules, and can incur penalties which include not receiving the MRes degree. The College’s policies and procedures for plagiarism can be found here: www3.imperial.ac.uk/registry/proceduresandregulations/policiesandprocedures/disciplinary

Cases of suspected plagiarism will be dealt with under the Colleges Examination Offences Policy and may result in a penalty being taken against any student who is found guilty. All suspected cases will be reported to the College Registry. Minor cases may be referred to the Board of Examiners for consideration. All other cases will be referred to the University and may be heard by a panel of senior members of staff from outside the College. The penalties for plagiarism may include:

- reduced marks or zero marks for that piece of work or for the whole course module;
- a resubmission of the work after a specified time in the case of projects and dissertations;
- exclusions from future examinations of Imperial College London;
- Withdrawal of degrees already awarded by Imperial College London.
List of modules

Core Modules:
Students attend lecture courses throughout the year and must register for assessment in three Core Modules which will be chosen from the following list.

Autumn term:

**M5MR1: Stochastic integrals: an introduction to Itô calculus (Prof. R. Cont)**

This course is a PhD-level introduction to the theory of stochastic integration and the *Itô calculus*, a calculus applicable to functions of stochastic processes with irregular paths, which has many applications in finance, engineering and physics. The course shall focus on the mathematical foundations of stochastic calculus. We shall develop the theory in the setting of *semimartingales*, which covers most examples of stochastic processes of interest in applications - including jump processes and diffusion processes.

**M5MR4: Stochastic processes (Dr. T. Cass)**

This course gives an introduction to probability theory and measure theory and introduces stochastic processes and the basic tools from stochastic analysis to provide the mathematical foundations for option pricing theory. It includes an intermediate introduction to axiomatic probability theory and measure theory, explaining notions like probability spaces, measures, measurable functions, integration with respect to measures, convergence concepts for random variables, joint distributions, independence and conditional expectations. It studies stochastic processes in discrete and continuous time; mainly the random walk, Brownian motion, and their properties. These in turn involve notions like the quadratic variation, the reflection principle, the Markov property and the martingale property. We will cover the stochastic Itô integral, the Itô formula, and their mathematical applications; for example, stochastic differential equations and some references to partial differential equations.

Spring term:

**M5MR5: Advanced methods in derivative pricing (Dr. A. Jacquier)**

This course can be seen as the continuation of Stochastic Processes. We shall revisit and go further in some of the concepts developed there, such as the Martingale Representation Theorem, Change of measure and Girsanov theorem, Quadratic variation of semimartingales, Feynman-Kac Theorem, Existence and uniqueness of SDEs. We shall in particular see these fundamental results in action, when studying the properties of the volatility surface: existence of the implied volatility and the local (Dupire) volatility for general semimartingales, existence and uniqueness of stochastic volatility models.

**M5MR2: Advanced topics in stochastic analysis (Dr. T. Cass)**

The course will present a view of contemporary view of problems in stochastic analysis by adopting the approach of T. Lyons’ theory of rough paths. We begin by looking at some elementary concepts: controlled differential equations the definition of the signature and its
algebraic properties. And then move to more advanced topics: spaces of rough paths, weakly geometric and geometric, controlled rough paths, rough integration and the universal limit theorem. We give a treatment of stochastic processes as rough paths, including enhanced Brownian motion and its properties, and explore rough integration compared to Itô/Stratonovich integration. Applications to classical results including the Wong-Zakai theorem and the Stroock-Varadhan support theorem will be considered as time allows. Novel application in stochastic simulation and mathematical finance: the use of the expected signature and Gaussian processes as rough paths will also be covered.

M5MR10: Algorithmic trading and machine learning (Dr. G. Di Graziano and Dr. S. Ramaswamy)

The aim of the course is to present a series of cutting-edge topics in the area of “Algorithmic trading” in a unified and systematic fashion. For each of the problems presented, we try to emphasize both the mathematical theory as well as industry applications.

The course consists of two main parts:
1) Optimal Execution Problems and
2) Machine Learning in Finance.

Optimal execution techniques are particularly relevant for market makers and quantitative brokers whereas machine learning is often used by hedge fund and prop desks to generate trading signals. However machine learning algorithms can be also applied as part of optimal execution tools, for example in order to choose order types or speed of execution.

The basic optimal execution problem consists of an agent (e.g. a bank or a broker) who needs to buy or sell a pre-specified number of units of a given asset within a fixed time frame (e.g. an hour, a day, etc).

Assuming that the purchase or sale of the asset will have an impact on its price, what is the execution policy which minimizes market impact? Having decided on the execution schedule, what type of order (market or limit order) is better to submit?

The first problem can be formulated as a trade-off between the expected execution cost and the price risk due to exogenous factors. We shall solve the optimization problem for different types of

- Price dynamics (ABM vs GBM, with drift or without drift);
- Market impact type (temporary, transient, permanent);
- Exogenous Risk functions (variance, VaR).

Machine learning techniques are becoming increasingly popular in the financial industry. They are typically used to help predict asset price patterns, volatility regimes, etc. The course starts by formalizing the concept of “learning” and providing an overview of various learning techniques. The subsequent lectures analyze in detail some of the most popular machine learning algorithms such as neutral networks and support vector machines.

We then introduce various smoothing tools (kernel regression, wavelets, HHTs) which have historically been developed for signal processing applications but have found their way into
finance over the last few years. Those methods can be used as stand-alone or jointly with other learning algorithms, e.g. SVM. Finally, we shall analyze issues related to model selection and how to combine different models to improve the learning outcome. Trading applications using real market data will be presented during the course.

**M5MR9: Dynamic portfolio theory (Dr. H. Zheng)**

This is an introductory course on dynamic portfolio theory. The objective is to cover the basic mathematical methods for solving DPT problems. We will discuss Merton’s optimal investment problem, utility maximization in complete and incomplete markets, stochastic control, dynamic programming principle, HJB equation, classical solution, verification theorem, viscosity solution, convex duality, martingale representation, dual stochastic control, Markov modulated model, etc. We will also discuss many applications, including utility indifference pricing, wealth maximization, optimal liquidation, turnpike property, mean-variance portfolio with constraints, quadratic hedging, etc.

**M5MR6: Introduction to machine learning (Dr. J. Sirignano)**

The course is an introduction to machine learning. Methods from supervised learning (general linear models, decision trees, random forests, boosting, Gaussian process regression, and stochastic gradient descent) and unsupervised learning (clustering and dimensionality reduction) are introduced. Significant attention is dedicated to more advanced topics such as neural networks, deep learning, and reinforcement learning. Applications in image recognition, natural language processing, robotics, online advertising, and finance are discussed.

**M5MR7: Lévy processes: Theory and Applications (Dr. M. Pistorius)**

In this course we present an introduction to the theory of Levy processes, a fundamental class of continuous time stochastic processes, which includes the Poisson process, the Wiener process and the stable process and which is encountered in many financial modelling applications. We start by considering jump-diffusions and develop the corresponding stochastic calculus for this class of stochastic processes. By way of illustration, a number of financial applications are presented. We then move on to infinitely divisible distributions, the Levy-Khintchine formula, Levy-Ito decomposition and discuss the path-wise construction and simulation of paths of general Levy processes. When time permits we cover elements of fluctuation theory and Markov process theory.

**M5MR8: Simulation methods for finance (Dr. H. Zheng)**

This course is an introduction to simulation methods in finance and more generally to probabilistic numerical methods for PDEs. It starts with discussion of random number generators, statistical tests and moves on to cover numerical schemes for solving Stochastic Differential Equations: the Euler, Milstein and certain higher-order schemes. Properties of weak and strong convergence, consistency and numerical stability are established. It then discusses variance reduction techniques and estimation of sensitivities. The course will be
concluded by studying a numerical method for American Options and non-linear PDEs, if time permits.

Summer term:

*M5MR3: Advanced topics in mathematical finance (Nonlinear valuation under credit gap risk, initial and variation margins and funding costs) (Prof. D. Brigo)*

The market for financial products and derivatives reached an outstanding notional size of 708 USD Trillions in 2011, amounting to ten times the planet gross domestic product. Even discounting double counting, derivatives appear to be an important part of the world economy and have played a key role in the onset of the financial crisis in 2007.

After briefly reviewing the Nobel-awarded option pricing paradigm by Black Scholes and Merton, hinting at precursors such as Bachelier and DeFinetti, we explain how the self-financing condition and Ito’s formula lead to the Black Scholes Partial Differential Equation (PDE) for basic option payoffs. We hint at the Feynman Kac theorem that allows to interpret the Black Scholes PDE solution as the expected value under a risk neutral probability of the discounted future cash flows, and explain how no arbitrage theory followed. Following this quick introduction, we describe the changes triggered by post 2007 events.

We re-discuss the valuation theory assumptions and introduce valuation under counterparty credit risk, collateral posting, initial and variation margins, and funding costs. We explain model dependence induced by credit effect, hybrid features, contagion, payout uncertainty, and nonlinear effects due to replacement closeout at default and possibly asymmetric borrowing and lending rates in the margin interest and in the funding strategy for the hedge of the relevant portfolio.

Nonlinearity manifests itself in the valuation equations taking the form of semi-linear PDEs or Backward SDEs. We discuss existence and uniqueness of solutions for these equations. We also present a high level analysis of the consequences of nonlinearities, both from the point of view of methodology and from an operational angle. Finally, we connect these development to interest rate theory under multiple discount curves, thus building a consistent valuation framework encompassing most post-2007 effects.

Optional Modules:

In addition, every student on the course will attend two Optional Modules. These may be modules from the above list not already submitted for examination, any module offered by the

*London Graduate School in Mathematics and Finance,*

or the following modules

*M5P7 Functional analysis (Dr G. Holzegel)*

*M3M3 Introduction to partial differential equations (Prof J.A. Carrillo de la Plata)*
Academic Regulations

Academic and Examination Regulations
The College academic and examination regulations for the award of research degrees can be viewed here:
http://www3.imperial.ac.uk/registry/proceduresandregulations/regulations

Regulations for Students
All registered students of the College are subject to the provisions of these Regulations for Students, the College Academic Regulations, and such other Regulations and Instructions for Students as the College may from time to time approve. The Regulations for Students can be viewed here:
http://www3.imperial.ac.uk/registry/proceduresandregulations/regulations#regstud

MRes Code of Practice
http://www3.imperial.ac.uk/registry/proceduresandregulations/qualityassurance/codesofpractice/codeofpracticeformresprogrammes

Academic Matters - Policies and Procedures

Employment during studies
The College advise students to work no more than 10-15 hours per week. Working in excess of these hours could impact adversely on a student’s studies or health.

International students should be advised that most visas allow students to work no more than 20 hours a week. Some sponsors may not permit students to take up work outside their studies and others may specify a limit. Students considering part-time work during term time are strongly advised to discuss this issue with their supervisor or postgraduate tutor. International students should also seek advice from the International Office regarding visa limitations on employment.

Please refer to the policy on employment during studies:

Graduate School
The Graduate School MasterClass programme is designed to provide Master’s students with the opportunity to learn a wide range of vital professional skills to prepare them for employment or future research endeavours.

Please visit the webpage for more information:
http://www.imperial.ac.uk/study/pg/graduate-school/professional-skills/professional-skills-masters/
UKVI requirements for overseas students

The Government imposes a requirement on universities to monitor the attendance of Tier 4 student visa holders, and to report to UK Visas and Immigration (UKVI) any Tier 4 visa holders who cease to be in regular attendance. The College is required to notify the UKVI where a student visa holder has missed ten “expected interactions” with the College. It is therefore essential that students communicate any annual or sick leave to their supervisor(s) and the PG Administrator.

Academic Integrity

As a student at the College you are expected to conduct all aspects of your academic life in a professional manner. A full explanation of academic integrity, including information on the College’s approach to plagiarism is available in this document:
https://workspace.imperial.ac.uk/registry/Public/Procedures%20and%20Regulations/Policies%20and%20Procedures/Examination%20and%20Assessment%20Academic%20Integrity.pdf

Code of Student Discipline

The Code of Student Discipline provides for the hearing of complaints concerning breaches of discipline by students, and for rights of appeal where appropriate, and sets down the penalties that may be imposed, including termination of membership of the College.
http://www.imperial.ac.uk/admin-services/secretariat/college-governance/charters-statutes-ordinances-and-regulations/ordinances/students/

Complaints and Appeals Procedures

The College aims to give the highest specialised instruction and provide you with the training, resources and administrative support you need to succeed. We also have rigorous regulations in place to ensure assessments are conducted with fairness and consistency. We recognise however, that students may believe that they have grounds for complaint about academic or administrative services, or wish to appeal the outcome of an assessment or final degree. Accordingly we have laid out clear and consistent procedures through which complaints and postgraduate research student appeals can be investigated and considered:
http://www3.imperial.ac.uk/registry/proceduresandregulations/policiesandprocedures/complaintsappeals

Copyright

Copyright guidance is available from the Library:
http://www3.imperial.ac.uk/library/subjectsandsupport/copyright

Guide to copyright – theses, dissertations and projects:
Intellectual Property Policy

Where students generate IP in the course of their study or research they will own that IP in their own right unless one of the following applies:

I. they generate IP which is subject to governing terms or an agreement with an external organisation whereby the IP vests with College or a third party; or
II. they generate IP which builds upon existing IP generated by College Employees or Associates; or
III. they generate IP jointly with College Employees or Associates; or
IV. they are, or have the status of, College Employee (in which case they are treated by College and the law as employees).

In the above listed circumstances, students will be required to assign IP to College and, in respect of revenue generated by that IP, the student will be treated on the same basis as College Employees under the Reward to Inventors Scheme.

For further guidance, contact the Research Office.
http://www3.imperial.ac.uk/researchsupport/contractsandip/ippolicy

Sick leave:
Students must notify their supervisor as soon as possible if they are absent due to illness or injury and a medical certificate must be produced after seven days.

Interruption of Studies:
http://www3.imperial.ac.uk/registry/researchdegrees/interruption

This should be requested when a personal emergency or other circumstance arises which means that a student needs to take a break from their studies. No fees are payable for such a period, during which a student’s research registration is effectively suspended. It is vital that an interruption of studies is applied for immediately, so that the student’s registration and timeline can be suspended until they return and they do not unnecessarily exceed the maximum registration period, assessments and thesis submission deadlines.

Interruption of Studies (IOS) should be put in place for any compassionate leave, maternity and paternity leave, personal emergency, lack of funding, etc. Students can apply for Interruption of Studies using the IC/B form.

For fee-paying registrations, no fees are payable for such a period although it should be borne in mind that registered student status, and the payment of any stipend, will also be suspended for the duration.

Where an interruption of studies is taken on health grounds, a condition of the interruption being granted is that you will be required to provide medical evidence as to your fitness to return to your studies and you will need to arrange to be seen by the College Health Centre prior to your return.
If you are an international student on a Tier 4 student visa, you will have to leave the UK for the period of your interruption. An exception to this would be if you had been declared unfit to travel. Please see further information for international students on how your visa may be affected by an interruption of studies.
https://workspace.imperial.ac.uk/international/Public/Resits%20and%20Interruptions.pdf

Note – only in exceptional circumstances can registration be suspended retrospectively.

Mitigation / Extenuating Circumstances Policy and Procedures:
http://www3.imperial.ac.uk/registry/proceduresandregulations/policiesandprocedures/examinationassessment

Plagiarism
It is important that students learn about how to properly attribute and acknowledge the work, data and ideas of others. Plagiarism is scientific misconduct, and students whose thesis can be shown to contain plagiarism are subject to penalties as outlined in the College’s Cheating Offences Policy and Procedures which can be found at this url:
http://www3.imperial.ac.uk/registry/proceduresandregulations/policiesandprocedures/disciplinary

TurnitinUK Plagiarism Detection Service at Imperial College

TurnitinUK is an online plagiarism detection service that enables plagiarism comparison.
www3.imperial.ac.uk/ict/services/teachingandresearchservices/elearning/plagiarism

Plagiarism advice for postgraduate research students can be found on the Library website at
http://www3.imperial.ac.uk/library/subjectsandsupport/plagiarism/phdstudents

Plagiarism Awareness Online Course

The Graduate School, in conjunction with the Library, has developed an online course designed to provide you with guidance and information about proper citation and attribution in writing. After completing the course you should be able to explain what plagiarism is, be familiar with the concept of academic integrity, be able to explain how to avoid plagiarism and learn what the College’s policy concerning plagiarism is.
http://www.imperial.ac.uk/study/pg/graduate-school/professional-skills/plagiarism-awareness-course/
Wellbeing and Advice

New Students
Information on how to settle in and find your way around.
http://www3.imperial.ac.uk/students/newstudents

Student Support Fund
If your financial circumstances change, the Student Support Fund can support you.

If you suddenly find yourself in financial difficulties or experience an unexpected change in circumstances, you may be eligible to apply for emergency financial help through the Student Support Fund.

The Fund offers a one-off payment to cover such emergencies as last minute accommodation and travel necessities, equipment and childcare. It does not have to be repaid.

Please visit this webpage for application guidelines:
http://www.imperial.ac.uk/students/fees-and-funding/student-support-fund/

Religious and Faith Support
The Chaplaincy Multi-Faith Centre is a place of resource, help, advice and information relating to issues of faith and spirituality. The Chaplaincy service provides prayer rooms, information about local places of worship, and people from different faiths you can talk with about issues of spirituality and religion.
http://www3.imperial.ac.uk/chaplaincy

Religious Observance
Guidelines for students with religious obligations during assessment periods are available here:
https://workspace.imperial.ac.uk/registry/Public/Exams/Exams%20and%20religious%20obligations.pdf

Student Support
The student support webpages are the central point for information on health and wellbeing.
http://www.imperial.ac.uk/students/student-support/

Director of Student Support
The Director of Student Support has overall responsibility for all matters relating to student support and wellbeing.
http://www3.imperial.ac.uk/educationoffice/studentsupport
College Tutors and Departmental Support
College Tutors operate outside of any department. They provide guidance and assistance to students in regard to welfare issues and are also involved in College disciplinary matters involving students.
For more information see: http://www.imperial.ac.uk/students/student-support/college-tutors-and-departmental-support/
A detailed description of the role is available here:
http://www3.imperial.ac.uk/registry/proceduresandregulations/qualityassurance/goodpractice

Imperial College Union (ICU) Advice Centre
The ICU Advice Centre offers advice and support on a wide range of issues. Imperial College Union runs the Centre independently of the College. The Student Advisor provides free, confidential, independent advice on welfare issues including housing, money and debt, employment and consumer rights, and personal safety.
https://www.imperialcollegeunion.org/welfare-and-advice

Counselling Service
The Student Counselling Service offers short-term counselling to all registered students of Imperial College London. It is free and confidential.
http://www3.imperial.ac.uk/counselling

Disability Advisory Service
The Disability Advisory Service offers confidential advice and support to students with a disability, specific learning difficulty, enduring health or mental health condition.
http://www3.imperial.ac.uk/disabilityadvisoryservice

Departmental Disability Officers
Departmental Disability Officers are the first point of contact within a student's department. They will apply for special exam arrangements on the student's behalf, and will facilitate the student's support within the department. Follow this link to find your Departmental Disability Officer:
http://www3.imperial.ac.uk/disabilityadvisoryservice/whoarewex/departmentaldisabilityofficers

NHS Health Centre and Finding a Doctor
The Imperial College Health Centre provides 24 hour care for its NHS registered patients in conjunction with the local after hours GP service. Students are able to register on the NHS if within the practice area. For further information see details on
http://www.imperialcollegehealthcentre.co.uk/
For information on Finding a Doctor see details on:
http://www.imperial.ac.uk/students/student-support/find-a-doctor/
NHS Dentist (based in the Health Centre)
The dental team provides the full range of NHS treatments. The surgery can also provide private treatment.
http://www3.imperial.ac.uk/students/welfareandadvice/dentist

Alumni Services
The Alumni Office encourages former students of Imperial to stay connected with the College. A range of benefits is offered to Imperial alumni including discounts, networking events, and the Alumni Visitor Centre.
http://www3.imperial.ac.uk/alumni

Careers Service
The Careers Service provides a varied and comprehensive careers guidance, information and vacancy service for all students and alumni of Imperial College, from first to final year undergraduates and postgraduates.
http://www3.imperial.ac.uk/careers

Centre for Academic English
The Centre for Academic English helps international students to participate effectively and confidently in the academic community. The Centre provides a range of English language support for international students.
http://www3.imperial.ac.uk/academic-english

The Graduate School
Every postgraduate student at Imperial is a member of the Graduate School. In partnership with academics, students across the College and the Graduate Students’ Union, the Graduate School provides opportunities for students to meet each other at a variety of social and academic events, promoting interdisciplinary knowledge exchange, encouraging collaborations and creating supportive global research communities and peer groups. The Graduate School runs a Professional Skills Development programme for doctoral students
http://www3.imperial.ac.uk/graduateschool

Information and Communications Technologies (ICT)
ICT provides all the central IT systems across Imperial College and provides IT support for students.
If you need help, you can contact the ICT Service Desk on 020 7594 9000, find help online at www.imperial.ac.uk/ict or visit the Service Desk on Level 4 Sherfield Building, open Monday – Friday from 8.30am until 6pm.
http://www.imperial.ac.uk/students/online-services/

International Student Support
Imperial is an international community with students of more than 100 nationalities. Specialist support is offered to assist overseas students to adapt to life in the UK.
http://www.imperial.ac.uk/study/international-students/
Library
The Imperial College Library, which consists of the Central Library in South Kensington and five distinct medical campus libraries across London, delivers a wide range of services to support students’ needs. The Library staff are an excellent source of guidance on academic best practice and offer training and advice to help augment your search techniques, keep abreast of the latest research activities in your field, and manage references using up-to-date software packages.
Ann Brew (Mathematics library support)
ann.brew@imperial.ac.uk
http://www3.imperial.ac.uk/library

Personal Development Planning (PDP) and iPlan
The Careers Service offers resources and advice on Personal Development Planning (PDP) which is an integral part of career development.
http://www3.imperial.ac.uk/careers/staff/staff/pdp

Registry
Registry: http://www3.imperial.ac.uk/registry
Research Degrees: http://www3.imperial.ac.uk/registry/researchdegrees
Student online services: http://www3.imperial.ac.uk/registry/currentstudents

The Registry is split into sections with different responsibilities, including:
Records
The Records section is responsible for the administration and maintenance of student records including: enrolments, interruptions of studies and withdrawals. The team also deals with examination results, progression and the issuing of statements of attendance, transcripts and degree certificates. The Records section is also responsible for the administration of Research Degree Examinations.

Student Records and Examinations
records@imperial.ac.uk or +44 (0)20 7594 7268
Research Degree Examinations
research.degree@imperial.ac.uk or +44 (0)20 7594 6087
Degree Certificates
certificates@imperial.ac.uk or +44 (0)20 7594 8037

Student Financial Support
The Student Financial Support team is responsible for a variety of funding schemes to help support prospective and current students.
For student support fund see:
http://www3.imperial.ac.uk/studentfinance/currentstudents/supportfund
Postgraduate Scholarships and Research Council Studentships
scholarships@imperial.ac.uk or +44 (0)20 759 48047/48130
US Federal Loans, Hardship funding and Emergency loans
student.funding@imperial.ac.uk or +44 (0)20 759 48122
Student Hub
The Student Hub is the one stop shop for all key information and support that students need for everyday life at Imperial. All the student support departments are brought together here, so that you can get answers to your most frequent queries in one place.

Student Hub team can help you with enquiries on: Accommodation; Admissions; International student enquiries; Research degrees; Student financial support; Student records; Tuition fees
http://www3.imperial.ac.uk/studenthub

Accommodation
For information on halls and private accommodation see:
http://www.imperial.ac.uk/study/campus-life/accommodation/

Sport Imperial
http://www3.imperial.ac.uk/sports

Graduate Students’ Union
The Graduate Students’ Union is the postgraduate arm of Imperial College Union, and is concerned primarily with the affairs of all postgraduate students at Imperial.
https://union.ic.ac.uk/presidents/gsu/

Imperial College Union
Imperial College Union is devoted to the educational interests and welfare of its members. All students at Imperial are members of Imperial College Union:
https://www.imperialcollegeunion.org/about-us

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.
https://www.imperialcollegeunion.org/your-union/your-representatives/academic-representatives/overview
Student Surveys
Your feedback is important to your department, the College and Imperial College Union.

Student Experience Survey (SES)

Whilst, there are a variety of means to give your feedback on your Imperial experience, don’t miss your opportunity to express your views via the Union’s Student Experience Survey (SES) which will be run at the end of the Autumn Term. This is the only College-wide survey in which research students will be asked to participate. The survey will cover your induction, welfare, pastoral and support services experience. When the survey is open you will receive an email in your Imperial College account with a link to it.

Postgraduate Research Experience Survey (PRES)

Imperial also participates in the national, biennial, Postgraduate Research Experience Survey (PRES) run by the Higher Education Academy (HEA). This survey is important as it allows the College to benchmark itself against other UK higher education institutions. PRES covers topics such as supervision, research community, progress and assessment, opportunities and research skills. It also includes a few extra questions about issues that are particularly important to us at Imperial such as graduate teaching activities and professional development.

The survey takes place every two years and the College will next participate in PRES 2017. For further information on PRES see: http://www3.imperial.ac.uk/registry/proceduresandregulations/surveys/pres

For further information on surveys please contact the Registry’s Surveys Team on surveys.registrysupport@imperial.ac.uk