Department of Electrical and Electronic Engineering

Postgraduate Information 2016-17

MSc in Future Power Networks
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## Departmental Postgraduate Administration

<table>
<thead>
<tr>
<th>Photo</th>
<th>Name</th>
<th>Role</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Photo" /></td>
<td>Andrew Holmes, Director of Postgraduate Studies, Room 701</td>
<td><a href="mailto:a.holmes@imperial.ac.uk">a.holmes@imperial.ac.uk</a></td>
<td>Andrew has overall administrative responsibility for the Department's postgraduate affairs including monitoring the progress of every postgraduate student towards MPhil/PhD transfer and submission. He is responsible for ensuring that all College regulations are applied appropriately in the Department.</td>
</tr>
<tr>
<td><img src="image2.png" alt="Photo" /></td>
<td>Imad Jaimoukha, Postgraduate Tutor, Room 1113</td>
<td><a href="mailto:i.jaimoukha@imperial.ac.uk">i.jaimoukha@imperial.ac.uk</a></td>
<td>Imad is responsible for the welfare and training of research students. If you need to meet with Imad to discuss any difficulties with your studies or if you have personal circumstances which are hindering your progress e-mail him at <a href="mailto:i.jaimoukha@imperial.ac.uk">i.jaimoukha@imperial.ac.uk</a> or <a href="mailto:c.macleod@imperial.ac.uk">c.macleod@imperial.ac.uk</a> to arrange an appointment.</td>
</tr>
<tr>
<td><img src="image3.png" alt="Photo" /></td>
<td>Calum MacLeod, Postgraduate Manager, Room 614</td>
<td><a href="mailto:c.macleod@imperial.ac.uk">c.macleod@imperial.ac.uk</a></td>
<td>Calum is always available to give advice on postgraduate matters and provide the required forms for Transfer, Exam Entry, Interruption of Studies etc.</td>
</tr>
</tbody>
</table>

## MSc Future Power Networks Administration

<table>
<thead>
<tr>
<th>Photo</th>
<th>Name</th>
<th>Role</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4.png" alt="Photo" /></td>
<td>Bikash Pal, MSc Future Power Networks Course Director, EEE Room 1104</td>
<td><a href="mailto:b.pal@imperial.ac.uk">b.pal@imperial.ac.uk</a></td>
<td></td>
</tr>
<tr>
<td><img src="image5.png" alt="Photo" /></td>
<td>Güler Eroğlu, MSc Future Power Networks Administrator, EEE Room 1102</td>
<td><a href="mailto:g.eroglu@imperial.ac.uk">g.eroglu@imperial.ac.uk</a></td>
<td></td>
</tr>
</tbody>
</table>
The MSc Future Power Networks Programme

This booklet is designed to provide you with most of the information that you need to know about the Future Power Networks MSc Programme and the assessment process. Please take time to read the formal programme specification and the academic regulations and procedures.

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

http://www.imperial.ac.uk/electrical-engineering/study/current-students-course-handbook/programme-specifications/
Provisional Schedule for the Academic Year

Term dates
Autumn Term Sat 1 Oct – Fri 16 Dec 2016
Christmas Closure Mon 26 Dec 2016 – Sun 1 Jan 2017
Spring Term Sat 7 Jan – Wed 24 Mar 2017
Easter Closure Wed 12 Apr – Tues 18 Apr 2017
Summer Sat 29 Apr – Fri 30 Sept 2017 (last day of the MSc course)

MSc students are automatically registered for their four core modules and must select four optional modules, apart from MSc Control Systems students who are able to choose both core and optional modules.

EE Technical modules
Registration for all EEE Dept modules opens in the Summer for the next academic year. Students taking Autumn term modules examined in December must be confirmed by end of week 4 of Autumn Term. All Autumn and all Spring Term modules must be confirmed by end of week 4 of Spring Term. Registration should be made via the [EEE Department options registration site](#).

Compulsory Online Plagiarism Awareness Course for Masters Students: deadline 30th October 2016.
Examinations: 5-16 December 2016 and 24 April – 19 May 2017 (dates provisional)
Main work on Individual Research Project: after the last exam by late May – 8 September 2016 with the following submission deadlines:

Initial Project Report: 17 March 2017 by 4:00 pm
Poster Presentation Skills Course: August 2017 (dates TBC)
Electronic version of Poster: 1 September 2017 by 4:00 pm
Electronic version of Final Project Report: 8 September 2017 by 4.00 pm
Soft-bound version x 2 of Final Project Report: 8 September 2017 by 4:00 pm
Poster Presentation: 11 September 2017 from 2:00 pm
Last official day of the MSc course 2016/2017: 30 September 2017

Assessment

Modules
A module refers to a lecture course and associated activity.
You need to choose 4 or 5 modules (i.e. subjects) on which to be examined from the available examinable OPTIONS in addition to the 4 CORE modules on which you will also be examined. You cannot change your choice after the registration deadline without the permission of the Course Director. The pass/fail decision and degree classification are based only on the best 8 module marks among all possible choices that include at least 4 core modules. In other words, if the 9 modules selected exactly include 4 core modules only, then the mark discarded will be the lowest of the non-core modules being taken. The 8 modules that are selected according to this rule are called the **Counted Examinations**.

The overall mark for the 8 individual modules that are counted is called the **Examination Aggregate Mark (%)** and is the equally-weighted average of all 8 exam results.

**Laboratory work**
The assessed laboratory work involves experimental work, and associated theory, provided by Professor Astolfi. The overall mark for this component of assessment is called the **Laboratory Aggregate Mark (%)** which is a weighted sum of the marks for the various items of laboratory work that you are asked to do. The amount of work involved will be approximately the equivalent of two examinable courses (i.e. two modules).

**Individual research project**
A list of projects proposed by staff will be published towards the end of the Autumn term. Project preferences will be required by the start of the third week of the Spring Term, delayed until then to allow students to acquire some understanding of modules given in the Spring Term before deciding to choose a project based on those modules. In addition, students might propose a project themselves or carry out a project as an intern with a company or at other universities provided the MSc Course Director agrees that the Project is suitable. The project will be assessed based on the performance on the Project, the Project Report and a Poster Presentation in the last week of the academic year. The **Project Aggregate Mark** is a weighted sum of these. More details on the MSc Individual Research Project can be found here: [http://www.imperial.ac.uk/electrical-engineering/study/current-students-course-handbook/msc-individual-research-project/](http://www.imperial.ac.uk/electrical-engineering/study/current-students-course-handbook/msc-individual-research-project/)
Award of the MSc

You will be awarded the highest grade of MSc for which your marks satisfy the following conditions.

MSc if
1. each of your 8 counted examination marks ≥ 40%;
2. laboratory aggregate mark ≥ 50%;
3. project aggregate mark and examination aggregate mark ≥ 50%.

MSc with Merit if:
1. each of your 8 counted examination marks ≥ 40%;
2. laboratory aggregate mark ≥ 50%;
3. project aggregate mark and examination aggregate mark ≥ 60%.

MSc with Distinction if:
1. each of your 8 counted examination marks ≥ 40%;
2. laboratory aggregate mark ≥ 50%;
3. project aggregate mark and examination aggregate mark ≥ 70%.

The Lecture Programme and the Examinations

Overview
The lecture programme provides a broad coverage of material. We encourage students to attend the first few lectures for each module to sample them before choosing which modules to take for examination. You need to choose 4 or 5 OPTIONAL modules on which to be examined in addition to the 4 CORE modules. In total 8 modules will count towards your MSc. All Core and Optional modules are listed on the next page. Most lectures are held in the EEE Building. In addition to the lectures for modules, there is a programme of seminars by outside speakers, which we also encourage you to attend although many are aimed at researchers. These are generally held in the Seminar Room (room 1109a, level 11, EEE Building) or in the Centre for Process Systems Engineering (Roderic Hill Building, top level). The seminar list will be available on the Control and Power Group web-pages or on http://talks.ee.ic.ac.uk/
<table>
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<tr>
<th>Course Code</th>
<th>Lecture Course Title</th>
<th>Lecturer</th>
<th>Term</th>
<th>Exam Type</th>
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<tbody>
<tr>
<td>EE9-FPN1-01</td>
<td>Smart Grid Technologies</td>
<td>G Strbac &amp; S Tindemans</td>
<td>Autumn</td>
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<tr>
<td>EE9-FPN1-02</td>
<td>HVDC Technology and Control</td>
<td>B Chaudhuri &amp; M Merlin</td>
<td>Autumn</td>
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<tr>
<td>EE9-FPN1-03</td>
<td>Power System Dynamics, Stability and Control</td>
<td>B Pal</td>
<td>Spring</td>
<td>e</td>
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<tr>
<td>EE9-FPN1-04</td>
<td>Optimization</td>
<td>A Astolfi</td>
<td>Autumn</td>
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<tr>
<td>EE9-FPN2-01</td>
<td>Traffic Theory and Queuing Systems</td>
<td>J Barria</td>
<td>Spring</td>
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<tr>
<td>EE9-FPN2-02</td>
<td>Probability and Stochastic Processes</td>
<td>C Ling</td>
<td>Autumn</td>
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<tr>
<td>EE9-FPN2-03</td>
<td>Digital Signal Processing and Digital Filters</td>
<td>M Brookes</td>
<td>Autumn</td>
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<tr>
<td>EE9-FPN2-04</td>
<td>Adaptive Signal Processing and Machine Intelligence</td>
<td>D Mandic</td>
<td>Spring</td>
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<tr>
<td>EE9-FPN2-05</td>
<td>Stability and Control of Nonlinear Systems</td>
<td>D Angeli</td>
<td>Autumn</td>
<td>ec</td>
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<tr>
<td>EE9-FPN2-06</td>
<td>Design of Linear Multivariable Control Systems</td>
<td>I Jaimoukha</td>
<td>Spring</td>
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<td>Module Code</td>
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<td>Lecturer(s)</td>
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<tr>
<td>EE9-FPN2-07</td>
<td>O</td>
<td>Estimation and Fault Detection</td>
<td>T Parisini</td>
<td>Spring</td>
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<tr>
<td>EE9-FPN2-08</td>
<td>O</td>
<td>Systems Identification</td>
<td>T Parisini</td>
<td>Autumn</td>
</tr>
<tr>
<td>EE9-FPN2-09</td>
<td>O</td>
<td>Wavelets and Applications</td>
<td>P-L Dragotti</td>
<td>Spring</td>
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<tr>
<td>EE9-FPN2-10</td>
<td>O</td>
<td>Sustainable Electrical Systems</td>
<td>A Junyent-Ferre &amp; G Strbac</td>
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<tr>
<td>EE9-FPN2-11</td>
<td>O</td>
<td>Power System Economics</td>
<td>G Strbac</td>
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<tr>
<td>EE9-QPRJ</td>
<td>C</td>
<td>Q1 Project</td>
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</table>

**Second column:**

- **C** = Core
- **O** = Optional

**Examination status:**

- **e** = closed-book examination only
- **ec** = closed-book examination with course work
- **c** = course work only
- **r** = for revision only – not examinable

**Important notes on the modules (including information about coursework)**

It would be wise to sample the first few lectures for each module at the start of each term in order to help you choose which subjects you will take for examination purposes. You need to take 8 or 9 modules in total, with at least 4 being core modules, and 4 or 5 being optional, finalising your choices by the end of the Spring Term. Once you have registered them, you cannot change them without the permission of the MSc Course Director. Of course, you need to do the coursework (if any) if you might wish to be examined on a module.

You may attend the lectures for any module without choosing to be examined on it.
Blackboard self-enrolment can be found here:  

You will need to enter your College username and password.

A reasonable familiarity with linear algebra is required for most of the courses. Dr Jaimoukha provides a revision handout which is supplied in the Welcome Pack.

Please note that, for one reason or another, there may be time-tabling clashes which result in you not being able to attend all of the lectures you want. If this is very disappointing for you, please contact the MSc Course Director who will try to resolve the problem for you.

Coursework
The lecturer sets a date by which time the coursework has to be submitted. Normally at least five weeks is allowed for the completion of each piece of coursework except when coursework consists of several relatively small parts that are issued separately. We hope to have coursework marked within 2 weeks of the deadline. Students are not allowed to keep their marked coursework since we need to keep it because the External Examiner will need to inspect it during one of his visits to the Department.

**VERY IMPORTANT – NO COPYING**  
As it is a valuable part of the educational process, you are free to discuss the coursework with other students; however, unless it is specified to be group work, your submission for marking must be entirely your own work. You must not copy any part of another person’s work (i.e. you must not copy any part or all of the text, equations, programs, figures, graphs, etc.). You must not copy material from any publication without making it clear what you have copied (usually by enclosing the copied material in ‘ ’ and following it by a reference such as [Page 32, 5].) There will be serious consequences for you if we detect any copying from another student or any unacknowledged copying from the web or any publication. Please see also the material regarding Plagiarism in Section 16.9 below.

**Submission of coursework**
Lecturers might request coursework to be emailed to them as pdf documents or uploaded using Blackboard which they will explain to you.

**Interpretation of grades and marks for coursework**
Corresponds to work at the Distinction-level, A and B to Merit level, C and D to Pass
level. Please see page 17-18 for more detail.

**Examination timetable**
The majority of examinations will take place during the first three weeks of the Summer Term but some Autumn modules are examined in December. Timetables will be published here: [http://www.imperial.ac.uk/electrical-engineering/study/current-students-course-handbook/examinations/timetable/](http://www.imperial.ac.uk/electrical-engineering/study/current-students-course-handbook/examinations/timetable/)

Each examination lasts three hours. Typically, you are asked to answer four out of six questions.

**Use of calculators in exams**
You will be provided with standard scientific calculators in the exam rooms. You cannot use your own calculators. At least one of each type of these calculators will be held in the Undergraduate Office (Level 6, Room 608) and will be available for inspection during March.

**Past exam papers and model answers**
Departmental policy is that you will be able to access the exam papers and model answers for the last two years from the departmental undergraduate web-pages where other useful information about examinations may be found. Past papers can be found here: [http://www.imperial.ac.uk/electrical-engineering/study/current-students-course-handbook/examinations/](http://www.imperial.ac.uk/electrical-engineering/study/current-students-course-handbook/examinations/)
Laboratory Work

Professor Astolfi’s hardware-based laboratory work will be carried out in the MSc Laboratory (Room 303). Details and the time it starts will be emailed to you in due course and your work on it will be marked as part of your assessment.

Individual Research Project

Guidelines for the individual research project can be found here: http://www.imperial.ac.uk/electrical-engineering/study/current-students-course-handbook/msc-individual-research-project/

Here you will find information on
- Project aims and deliverables
- Project schedule
- Selection and allocation of projects
- Writing and submitting the project report
- Poster presentation
- Assessment
- Plagiarism

*Failure to comply with Poster and Project deadlines might cause a 12-month delay in the award of the MSc degree.*

Poster Presentation Skills Course and Poster Presentation

Guidelines for producing the poster and details about the poster presentation can also be found on the above link.

The Department will arrange a Poster Presentation Skills Course for each MSc group, which will be hosted in the E&EED sometime in August 2017. The exact date is yet to be confirmed. **It is mandatory for you to attend this course** as you will be shown valuable skills which you can use for your poster presentation in September.

Poster presentations for all four MSc courses will take place on Monday 11th September 2017 from 2.00 pm in the College main entrance.
Plagiarism

All Master’s students are required to undertake a **compulsory** online course in plagiarism awareness. All MSc students must complete the course by the deadline of 30th October 2016. More information about the course and how students can enrol is available at:

http://www.imperial.ac.uk/study/pg/graduate-school/professional-skills/masters/online/

The College’s formal position on examination offences is detailed in the Cheating Offences Policy and Procedures, which lists what the College categorises as cheating and thus completely unacceptable. The list of potential offences is indicative only and not exhaustive. The procedures can be found here:

http://www.imperial.ac.uk/electrical-engineering/study/current-students-course-handbook/examinations/cheating-and-plagiarism/

**PLEASE TAKE THIS VERY SERIOUSLY** when preparing your course work and project report.

Registration and Notification of Results

Registration

Students are reminded that it is their responsibility to comply with current regulations for registration for the MSc and IDIC. European exchange students not registered for the MSc degree are eligible for the IDIC diploma. Details of the regulations can be obtained from the Registry, Sherfield Building.

Notification of results

You will be given a provisional indication of your performance in the exams (subject to confirmation by the Board of Examiners) in July or August 2017. Your final results will not be available until after an Examiners’ Meeting in late October 2017. Before then, provisional indications of your exam results can be included in confidential references for potential employers or other Universities by contacting the MSc Course Director.

Your overall MSc result (Fail or Pass or MSc with Merit or MSc with Distinction) and your transcript should be available to you from the Registry web-site soon after the Board of Examiners Meeting (probably by mid-November). The Registry will email instructions for seeing your transcript when it is ready.

Special Arrangements for Students with
Disabilities, Specific Learning Difficulties or Long-Term Health Issues

http://www.imperial.ac.uk/electrical-engineering/study/current-students-course-handbook/examinations/special-examination-arrangements/

At Imperial College we recognise that studying at university can be a challenge, especially if you have a disability. We are keen that you have every opportunity to fulfil your potential and graduate with the degree you deserve. It is therefore important that you let us know about any disability, specific learning difficulty or health problem as soon as possible so that we can give expert advice and support to enable you to do this. Some people never think of themselves as having a disability, but students who have experienced any of the issues listed below have found that a little extra help and support has made all the difference to their study experience.

- Specific learning difficulties (such as dyslexia, dyspraxia, AD[H]D)
- Autistic spectrum disorder (such as Asperger's)
- Deafness or hearing difficulties
- Long term mental health difficulties (such as chronic anxiety, bipolar disorder, depression)
- Medical conditions (such as epilepsy, arthritis, diabetes, Crohn's disease)
- Physical disabilities or mobility impairments
- Visual difficulties

Help with Lectures, Coursework or Lab Work

If you need help with some aspects of the lectures or coursework, speak to the lecturer after a lecture or state your problem in an email to the lecturer and ask for help. The lecturer might be able to provide help by responding with a short email. If it is clear that you need to speak to the lecturer, arrange an appointment by email.

Please note: it is better to show your work to the lecturer and ask where you have gone wrong than to appear helpless by not having tried to do the work. We all feel more sympathetic to someone who has tried than to someone who has given up without trying hard. If you need more help, try asking the Postgraduate Tutor or the Course Director.
If you think you have failed during the Exams or the Project
Please refer to the following pages:
http://www.imperial.ac.uk/electrical-engineering/study/current-students-course-handbook/assessment/

Research carried out by the Control and Power Group

Members of the Group carry out research on many aspects of Control and Power. You can determine the interests of each member, details of recent research papers, major research projects, etc., by investigating the pages at
http://www.imperial.ac.uk/electrical-engineering/research/control-and-power/

Careers in Control and Power

Please refer to the MSc Student Handbook - Can we help you? - Careers
http://www.imperial.ac.uk/electrical-engineering/study/current-students-course-handbook/careers/

http://www.imperial.ac.uk/careers
# Staff Members involved in the MSc Future Power Networks Programme

All staff members are located in the Electrical and Electronic Engineering Building.

<table>
<thead>
<tr>
<th>Staff Name</th>
<th>Room</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof Bikash Pal</td>
<td>1104</td>
<td><a href="mailto:b.pal@imperial.ac.uk">b.pal@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Course Director</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prof Alessandro Astolfi</td>
<td>1110a</td>
<td><a href="mailto:a.astolfi@imperial.ac.uk">a.astolfi@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Dr Javier Barria</td>
<td>1012</td>
<td><a href="mailto:j.barria@imperial.ac.uk">j.barria@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Dr Mike Brookes</td>
<td>814</td>
<td><a href="mailto:mike.brookes@imperial.ac.uk">mike.brookes@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Dr Balarko Chaudhuri</td>
<td>1116</td>
<td><a href="mailto:b.chaudhuri@imperial.ac.uk">b.chaudhuri@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Dr Per-Luigi Dragotti</td>
<td>802</td>
<td><a href="mailto:p.dragotti@imperial.ac.uk">p.dragotti@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Ms Güler Eroğlu</td>
<td>1102</td>
<td><a href="mailto:g.eroglu@imperial.ac.uk">g.eroglu@imperial.ac.uk</a></td>
</tr>
<tr>
<td>MSc FPN Administrator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr Paul Norman</td>
<td>303 &amp; 405</td>
<td><a href="mailto:p.norman@imperial.ac.uk">p.norman@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Responsible for day-to-day running</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prof Andrew Holmes</td>
<td>701</td>
<td><a href="mailto:a.holmes@imperial.ac.uk">a.holmes@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Director of Postgraduate Studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Imad Jaimoukha</td>
<td>1113</td>
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</tr>
<tr>
<td>Departmental Postgraduate Tutor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr Adria Junyent-Ferre</td>
<td>1103</td>
<td><a href="mailto:adria.junyent-ferre@imperial.ac.uk">adria.junyent-ferre@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Dr Cong Ling</td>
<td>815</td>
<td><a href="mailto:c.ling@imperial.ac.uk">c.ling@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Prof Danilo Mandic</td>
<td>813</td>
<td><a href="mailto:d.mandic@imperial.ac.uk">d.mandic@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Dr Michael Merlin</td>
<td>1109b</td>
<td><a href="mailto:michael.merlin@imperial.ac.uk">michael.merlin@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Prof Thomas Parisini</td>
<td>1114</td>
<td><a href="mailto:t.parisini@imperial.ac.uk">t.parisini@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Prof Goran Strbac</td>
<td>1101</td>
<td><a href="mailto:g.strbac@imperial.ac.uk">g.strbac@imperial.ac.uk</a></td>
</tr>
<tr>
<td>Dr Simon Tindemans</td>
<td>1108g</td>
<td><a href="mailto:s.tindemans@imperial.ac.uk">s.tindemans@imperial.ac.uk</a></td>
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## Interpretation of Grades and Marks

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<th>Grade on coursework</th>
<th>Mark (%) (on transcript)</th>
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<td><strong>A+</strong></td>
<td>100</td>
<td><strong>Distinction standard</strong> - an exceptionally well presented exposition of the subject, showing: (i) command of the relevant concepts and facts, (ii) a high critical or analytical ability, (iii) originality, and (iv) evidence of substantial outside reading (where applicable). Distinction standard - excellent answer - a very well presented exposition of the subject, showing many of the above features, but falling short in one or two of them.</td>
</tr>
<tr>
<td><strong>A</strong></td>
<td>70</td>
<td><strong>Merit standard</strong> - Good to very good answer which (i) shows a clear grasp of the relevant concepts and facts, (ii) gives an accurate account of the relevant taught material (as exemplified in the model answer), and (iii) shows evidence of some outside reading or of critical or analytical ability.</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>60</td>
<td><strong>Pass standard</strong> - adequate to quite good answer which (i) shows a grasp of the basic concepts and facts, (ii) gives a mainly accurate account of at least half of the relevant taught material (as exemplified in the model outline answer), and (iii) does not go beyond that, or goes beyond that but is marred by significant errors.</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Fail Quality

<table>
<thead>
<tr>
<th>Grade</th>
<th>Mark</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>50</td>
<td>Unsatisfactory answer: shows only a weak grasp of the basic concepts and facts, and is marred by major errors or brevity; presents only about one third to one half of the relevant taught material. Shows a confused understanding of the topic; presents less than a third of the relevant taught material. Answer is too inaccurate, too irrelevant, or too brief to indicate more than a vague understanding of the topic, less than a quarter of the relevant taught material. Presents only one, two or three sentences or facts that are correct and relevant to the topic. Contains nothing correct that is relevant to the topic.</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>All grades and marks are provisional until confirmed by the Board of Examiners. The table overleaf is designed to give a helpful interpretation of the grades for coursework and marks. The grade boundaries for many of the grades are consequences of the fact that most of the grade boundaries have been inherited from undergraduate programmes and are used for this MSc programme since many courses are attended by both MSc and undergraduate students and the staff are used to marking with these boundaries. Note that these interpretations apply to individual items of coursework and exam questions (for which the pass mark is 50%).</td>
</tr>
</tbody>
</table>

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