

External Examiner Report 2016-17

Full name and title	Prof Onno Bokhove							
Home institution or other affiliation	School of Mathematics, University of Leeds							
Degree being examined (e.g. BSc/GEP/MBBS/MEng/MSc/MRes)	MRes							
Subject and part being examined (e.g. Biology)	Mathematics of Planet Earth							
Year of Tenure	1*:		2:		3:		4*:	5*:

* If this is your first or final year of office please ensure you complete Section 8 of this report.

1. Programme / Curriculum

1(a)	Programme and Module Information – did you receive:	Yes	No	N/A
(i)	Programme handbook(s) / programme specification including programme learning outcomes?			x
(ii)	Syllabus or module descriptors including learning outcomes?			x
(iii)	Assessment briefs / marking criteria			x
(iv)	Sufficient information about the programme(s) / modules in order to fulfil your role?			x
Comments (particularly if you answered 'NO' to any of the above)				
At some point, I have assessed the description of the MSc programme of the Mathematics of Planet Earth Doctoral Training Centre, which counts as the material under (i)-(iv), I suppose.				

1(b)	Please comment on the strengths and weaknesses of the Degree Programme in relation to:
(i)	The balance and content of the degree programme(s) in relation to stated learning outcomes; The different components have been integrated a bit more both in terms of their relation to the application and the actual workload compared to previous years.
(ii)	Coherence and currency of the programme(s) and the appropriateness of compulsory modules/units in relation to stated learning outcomes; The compulsory units were sufficient, given the remarks under (i). The numerical components have been integrated a bit more within the courses, compared with previous years,
(iii)	Suitability of methods and adequacy of teaching as reflected by the standards achieved by candidates; The standards were high.

Departmental response to issues and suggestions raised in Section 1

2. Assessment Strategy

2.	Please comment on the assessment strategy in relation to:
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(i)	The rigour, appropriateness and overall quality of the methods of assessment (unseen written papers, essays/dissertations, orals, clinical examinations) in relation to the level of study and the intended learning outcomes;
	Good.
(ii)	The balance and comparability of assessment methods across modules of the same level and the suitability of the overall assessment load for the programme(s);
	Good.
(iii)	The weighting in the final assessment between years of the programme(s) and in relation to the number of programme modules completed;
	Good. The discussions on the different components of the programme in the exam meetings were excellent and thorough.

Departmental response to issues and suggestions raised in Section 2

3. Assessment Process, Marking and Moderation

3(a)	Draft assessments	Yes	No	N/A
(i)	Did you receive all of the necessary draft assessments for comment / approval?	x		
(ii)	Was the nature and level of the questions (or tasks) appropriate?	x		
(iii)	Were suitable arrangements in place to consider your comments on the draft assessments?	x		
(iv)	Did you receive feedback on your comments?	x		x
Comments (particularly if you answered 'NO' to any of the above)				

3(b)	Marking and Moderation of scripts (examination, assessed coursework, dissertation/project reports)	Yes	No	N/A
(i)	Did you receive a sufficient number of scripts and other assessed work, including those of first class, distinction, borderline and failed candidates, for scrutiny?	x		
(ii)	Was the general standard and consistency of marking appropriate?	x		
(iii)	Was there evidence that assessed work had been second-marked internally?	x		
(iv)	Were the scripts marked in such a way as to enable you to see the reasons for the award of given marks?	x		
Comments (particularly if you answered 'NO' to any of the above)				

3(c)	Parts of programmes taken at another institution (e.g. a collaborative partner institution, a year abroad, a year in industry, or under an International Exchange Scheme)	Yes	No	N/A
(i)	Were the procedures for incorporating marks obtained by students at another institution clear and consistently applied?	x		
Comments (particularly if you answered 'NO' to the above)				

3(d)	Practical Examinations	Yes	No	N/A
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(i)	Were satisfactory arrangements made for the conduct of practical examinations?	x		
(ii)	Was the general standard and consistency of marking appropriate?	x		
Comments (particularly if you answered 'NO' to any of the above)				

3(e)	Oral Assessments (including Viva Voce Examinations)	Yes	No	N/A
(i)	Were satisfactory arrangements made for the conduct of oral assessments (e.g. presentations, poster presentations etc...)?			x
(ii)	Were suitable arrangements made for you to conduct viva voce examinations?			x
(iii)	Was the purpose for conducting a viva voce examination and the criteria for selecting candidates for a viva voce clear?			x
(iv)	Was the assessment of such work appropriate and consistent?			x
Comments (particularly if you answered 'NO' to any of the above)				

3(f)	Please comment on the assessment process, marking and moderation in relation to:
(i)	The suitability of marking schemes / marking criteria and, where appropriate, model answers and the consistency with which these were applied; Good.
(ii)	The suitability of the procedures for marking and moderation and the consistency with which these were applied; Good.
(iii)	Whether the arrangements for degree classification (e.g. the scheme for the award of honours [UG] / scheme for the award of pass, merit or distinction [PG] – whichever is relevant) are set at the appropriate level and applied consistently; Good. The checks and discussions about these aspects at the exam meeting, attended by me, were very thorough and professional
(iv)	The extent to which the assessment process measures student achievement rigorously and fairly against the intended outcomes of the programme(s) and is conducted in line with College policies and regulations This objective was achieved.

Departmental response to issues and suggestions raised in Section 3

4. Board of Examiners

4(a)	Board of Examiners' Meeting	Yes	No	N/A
(i)	Were you invited to attend the meeting?	x		
(ii)	Were you able to attend the meeting?	x		
(iii)	Was the meeting conducted to your satisfaction?	x		
(iv)	Were you satisfied with the recommendations of the Board of Examiners?	x		
Comments (particularly if you answered 'NO' to any of the above)				

4(b)	Please comment on the following aspect related to Boards of Examiners' Meetings:
(i)	Whether the College procedures governing mitigating circumstances, academic misconduct (e.g. plagiarism cases) and borderline performances were considered and applied fairly and equitably to all students;
	Yes, as far as I could assess, this was discussed appropriately (i.e., in particular regarding borderline performances and delays).

Departmental response to issues and suggestions raised in Section 4

5. Academic Standards

5(a).	Please comment on academic standards and student achievement with regard to:
(i)	The appropriateness of the standards set for the awards in relation to the Framework for Higher Education Qualifications, national subject benchmarks and any additional Professional, Statutory and Regulatory Body requirements (where relevant);
	The standards set were appropriate.
(ii)	The standards of student performance in the programme(s) or parts of programmes and whether these are comparable with standards achieved by students on similar programmes or parts of programmes in other UK higher education institutions of which you have experience;
	Yes, also in a comparison with the Fluid Dynamics DTC in Leeds, in which I am involved on their Management Board and in some of the teaching.
(iii)	The extent to which the academic standards and standards of student performance across modules within the programme(s) are comparable;
	Yes, the standards across the modules appear to be comparable and were also tuned as such of the last few years.
(iv)	For external examiners <u>not</u> in their first year of appointment – are the standards of student performance across modules within the programme(s) comparable to those in previous cohorts;
	Yes, but as indicated in previous responses, little wrinkles have been ironed (out).

Departmental response to issues and suggestions raised in Section 5

6. Response to previous year's External Examiner Report

6.	Response to previous year's report	Yes	No	N/A
(i)	Did you receive a formal written response to the previous year's External Examiner report?			x
(ii)	Are you satisfied that the issues raised in the previous report either have been, or are being, addressed?	x		
Comments (particularly if you answered 'NO' to any of the above)				
Can't recall.				

Departmental response to issues and suggestions raised in Section 6

7. Overview Comments, Recommendations and Good Practice

Please provide an overview of your assessment of the programme(s) and modules for which you are responsible as External Examiner. Please identify any specific matters relating to the academic standards of the awards and/or the quality of learning opportunities provided to students that should be addressed. Please also highlight any examples of good and/or innovative practice that you consider to be worthy of wider dissemination within the College.

7(a) Overview Comments

The overall level of the MSc component of the Doctoral Training Centre Mathematics of Planet Earth is appropriate.

7(b) Recommendations / Suggestions for Enhancement

In a previous report, I had said: "The different components could be integrated a bit more both in terms of their relation to the application and the actual workload, the latter which was too high in the academic year 2014-2015. The numerical components could be integrated a bit more within the courses, but this is undertaken for the next year, I understood."

These points have been taken up. What could be done better is to include an outreach page in each research report, explaining the research performed in general terms, including images, also to be used on the students' websites for which even movies could be included. This recommendation is refined relative to last years but was not yet taken up.

7(c) Examples of good and/or innovative practice in learning, teaching and assessment

Examples:

- (i) Learning: the arrangement and involvement of the cohort in organising the weekly seminars.
- (ii) Teaching: Use of modern internet tools (bit-bucket etc.).
- (iii) Assessment: the flexible way in workloads was adjusted and the exams were scaled fairly given the overall workload.
- (iv) The way delays were handled to create a firm yet friendly learning environment.

Departmental response to comments and recommendations in Section 7

8. For Examiners completing their first or final year in office only

For external examiners in their first year of office

8(a) Please comment on the effectiveness of the arrangements for your induction as an external examiner by the College (if you attended the external examiner induction day) and by the Department

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For external examiners in their final year of office – Final Exit Report

8(b) Please provide an overview of your term of office. This should ideally include comment on any changes in standards of student performance over time, major developments in the provision during your tenure, the implementation of any recommendations for enhancement (this is not an exhaustive list and examiners are welcome to comment on any matters they consider appropriate)

Initial wrinkles in the program regarding work-loads, integration of the various components and the inclusion of practical climate change issues without the MPE program were ironed out. The program is much more balanced now. Inviting the external examiner to the MSc presentations remains a good idea.

Departmental response to comments in Section 8

External Examiner Signature (an electronic signature is acceptable):	Date of submission:
O Bokhove	25 th of February 2018

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Name and title of Department Respondent	
Position:	e.g. Director of Undergraduate Studies, Programme Director, Programme Coordinator etc.
Date:	

Read by Vice Provost (Education)		Date:	
Comments			
Further action required by Department			

Response to Vice Provost Comments / Further Action:	
Date:	

External Examiner Report 2016-17

Full name and title	Prof Jan Obloj									
Home institution or other affiliation	University of Oxford									
Degree being examined (e.g. BSc/GEP/MBBS/MEng/MSc/MRes)	MRes									
Subject and part being examined (e.g. Biology)	Stochastic Analysis and Mathematical Finance									
Year of Tenure	1*:		2:		3:		4*:	X	5*:	

* If this is your first or final year of office please ensure you complete Section 8 of this report.

1. Programme / Curriculum

1(a)	Programme and Module Information – did you receive:	Yes	No	N/A
(i)	Programme handbook(s) / programme specification including programme learning outcomes?	X		
(ii)	Syllabus or module descriptors including learning outcomes?	X		
(iii)	Assessment briefs / marking criteria	X		
(iv)	Sufficient information about the programme(s) / modules in order to fulfil your role?	X		
Comments (particularly if you answered 'NO' to any of the above)				

1(b)	Please comment on the strengths and weaknesses of the Degree Programme in relation to:
(i)	The balance and content of the degree programme(s) in relation to stated learning outcomes; The taught part of the curriculum corresponds to 25% of the final mark. The students take three courses from a choice of existing courses from concurrent taught MSc courses at the College and specifically designed courses. The research element of the course, corresponding to 75% of the final mark, is clearly the main emphasis of the curriculum. Students prepare a written dissertation under a supervision of one member of the Faculty. This usually involves reading research papers, summarising their findings and either extending the results slightly or applying them, or both. The course is aimed at students planning to pursue a PhD and the dissertation is the first step in this direction. This is all appropriate.
(ii)	Coherence and currency of the programme(s) and the appropriateness of compulsory modules/units in relation to stated learning outcomes; In my judgment the MRes in Mathematical Sciences is a well-thought and well-designed program delivering advanced training in Mathematics with clear emphasis on research component. Modules are re-considered and added when needed and overall the offer is excellent.
(iii)	Suitability of methods and adequacy of teaching as reflected by the standards achieved by candidates; In my judgment the MRes in Mathematical Sciences is a well-thought and well-designed program delivering advanced training in Mathematics with clear emphasis on research component. Modules are re-considered and added when needed and overall the offer is excellent.

Departmental response to issues and suggestions raised in Section 1

2. Assessment Strategy

2.	Please comment on the assessment strategy in relation to:
(i)	The rigour, appropriateness and overall quality of the methods of assessment (unseen written papers, essays/dissertations, orals, clinical examinations) in relation to the level of study and the intended learning outcomes;
	I have not negative comments to make. The taught component is assessed via exams which are safeguarded by the usual processes.
(ii)	The balance and comparability of assessment methods across modules of the same level and the suitability of the overall assessment load for the programme(s);
	I have no worries here.
(iii)	The weighting in the final assessment between years of the programme(s) and in relation to the number of programme modules completed;
	The weighting was re-adjusted and I think it now is well thought and appropriate.

Departmental response to issues and suggestions raised in Section 2

3. Assessment Process, Marking and Moderation

3(a)	Draft assessments	Yes	No	N/A
(i)	Did you receive all of the necessary draft assessments for comment / approval?	X		
(ii)	Was the nature and level of the questions (or tasks) appropriate?	X		
(iii)	Were suitable arrangements in place to consider your comments on the draft assessments?	X		
(iv)	Did you receive feedback on your comments?	X		
Comments (particularly if you answered 'NO' to any of the above)				

3(b)	Marking and Moderation of scripts (examination, assessed coursework, dissertation/project reports)	Yes	No	N/A
(i)	Did you receive a sufficient number of scripts and other assessed work, including those of first class, distinction, borderline and failed candidates, for scrutiny?	X		
(ii)	Was the general standard and consistency of marking appropriate?	X		
(iii)	Was there evidence that assessed work had been second-marked internally?	X		
(iv)	Were the scripts marked in such a way as to enable you to see the reasons for the award of given marks?	X		
Comments (particularly if you answered 'NO' to any of the above)				

3(c)	Parts of programmes taken at another institution (e.g. a collaborative partner institution, a year abroad, a year in industry, or under an International Exchange Scheme)	Yes	No	N/A
(i)	Were the procedures for incorporating marks obtained by students at another institution clear and consistently applied?			X
Comments (particularly if you answered 'NO' to the above)				

3(d)	Practical Examinations	Yes	No	N/A
(i)	Were satisfactory arrangements made for the conduct of practical examinations?			X
(ii)	Was the general standard and consistency of marking appropriate?			X
Comments (particularly if you answered 'NO' to any of the above)				

3(e)	Oral Assessments (including Viva Voce Examinations)	Yes	No	N/A
(i)	Were satisfactory arrangements made for the conduct of oral assessments (e.g. presentations, poster presentations etc...)?	X		
(ii)	Were suitable arrangements made for you to conduct viva voce examinations?	X		
(iii)	Was the purpose for conducting a viva voce examination and the criteria for selecting candidates for a viva voce clear?	X		
(iv)	Was the assessment of such work appropriate and consistent?	X		
Comments (particularly if you answered 'NO' to any of the above)				

3(f)	Please comment on the assessment process, marking and moderation in relation to:
(i)	The suitability of marking schemes / marking criteria and, where appropriate, model answers and the consistency with which these were applied; I am satisfied with what I have seen.
(ii)	The suitability of the procedures for marking and moderation and the consistency with which these were applied; Yes
(iii)	Whether the arrangements for degree classification (e.g. the scheme for the award of honours [UG] / scheme for the award of pass, merit or distinction [PG] – whichever is relevant) are set at the appropriate level and applied consistently; Yes, I believe so. This is a highly selective course with minimal intake so the expectation is that the students do well and achieve distinction. I think this is reasonable.
(iv)	The extent to which the assessment process measures student achievement rigorously and fairly against the intended outcomes of the programme(s) and is conducted in line with College policies and regulations All very appropriate

Departmental response to issues and suggestions raised in Section 3

4. Board of Examiners

4(a)	Board of Examiners' Meeting	Yes	No	N/A
(i)	Were you invited to attend the meeting?	X		
(ii)	Were you able to attend the meeting?	X		
(iii)	Was the meeting conducted to your satisfaction?	X		
(iv)	Were you satisfied with the recommendations of the Board of Examiners?	X		
Comments (particularly if you answered 'NO' to any of the above)				

4(b)	Please comment on the following aspect related to Boards of Examiners' Meetings:
(i)	Whether the College procedures governing mitigating circumstances, academic misconduct (e.g. plagiarism cases) and borderline performances were considered and applied fairly and equitably to all students;
	No such cases were reported.

Departmental response to issues and suggestions raised in Section 4

5. Academic Standards

5(a).	Please comment on academic standards and student achievement with regard to:
(i)	The appropriateness of the standards set for the awards in relation to the Framework for Higher Education Qualifications, national subject benchmarks and any additional Professional, Statutory and Regulatory Body requirements (where relevant);
	This course is exceptional and it is hard to compare it to, e.g. MSc programmes. It sets the bar high and trains future PhD students. The standards are excellent.
(ii)	The standards of student performance in the programme(s) or parts of programmes and whether these are comparable with standards achieved by students on similar programmes or parts of programmes in other UK higher education institutions of which you have experience;
	The performance is, I believe, well above <u>average</u> MSc-level performance (at Imperial or Oxford) for the same courses
(iii)	The extent to which the academic standards and standards of student performance across modules within the programme(s) are comparable;
	Only two students so hard to judge but I think the standards are indeed comparable
(iv)	For external examiners <u>not</u> in their first year of appointment – are the standards of student performance across modules within the programme(s) comparable to those in previous cohorts;
	Yes

Departmental response to issues and suggestions raised in Section 5

6. Response to previous year's External Examiner Report

6.	Response to previous year's report	Yes	No	N/A
(i)	Did you receive a formal written response to the previous year's External Examiner report?	x		
(ii)	Are you satisfied that the issues raised in the previous report either have been, or are being, addressed?	x		
Comments (particularly if you answered 'NO' to any of the above)				

Departmental response to issues and suggestions raised in Section 6

7. Overview Comments, Recommendations and Good Practice

Please provide an overview of your assessment of the programme(s) and modules for which you are responsible as External Examiner. Please identify any specific matters relating to the academic standards of the awards and/or the quality of learning opportunities provided to students that should be addressed. Please also highlight any examples of good and/or innovative practice that you consider to be worthy of wider dissemination within the College.

7(a)	Overview Comments
	In my judgment the MRes in Mathematical Sciences is a well-thought and well-designed program delivering advanced training in Mathematics with clear emphasis on research component. I believe it offers a unique opportunity: for Faculty to observe students for a long period and assess their suitability for PhD studies and for students to experience first-hand the challenges and rewards of pursuing a research degree. I do think however that this course requires a very significant effort from the Math Finance group and with only two students it is a very generous offer.

7(b)	Recommendations / Suggestions for Enhancement
	I would suggest increasing student numbers.

7(c)	Examples of good and/or innovative practice in learning, teaching and assessment
	The dissertations are well structured and offer a great introduction into research.

Departmental response to comments and recommendations in Section 7

8. For Examiners completing their first or final year in office only

For external examiners in their first year of office

8(a)	Please comment on the effectiveness of the arrangements for your induction as an external examiner by the College (if you attended the external examiner induction day) and by the Department

For external examiners in their final year of office – Final Exit Report

8(b)	Please provide an overview of your term of office. This should ideally include comment on any changes in standards of student performance over time, major developments in the provision during your tenure, the implementation of any recommendations for enhancement (this is not an exhaustive list and examiners are welcome to comment on any matters they consider appropriate)
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I has been a pleasure to serve on the examination board of this course. It is a course where the Faculty puts a great effort into selecting and then teaching the students. The students essentially offered a trial year before they embark on a PhD. It is a unique offer – the students are able to concentrate on the course, both taught and research elements, and do not spend a significant time and effort on trying to secure an internship etc (as is the case with MSc courses). However, this also means that with the current intake of 2-3 students this course is a heavy burden on the group which runs it and I have suggested in past that it would seem sensible to examine possibilities to reforming/expanding the course. I believe this is now ongoing.

Departmental response to comments in Section 8

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External Examiner Signature (an electronic signature is acceptable):	Date of submission:
Jan Obloj	16 October 2017

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Name and title of Department Respondent	
Position:	e.g. Director of Undergraduate Studies, Programme Director, Programme Coordinator etc.
Date:	

Read by Vice Provost (Education)	Date:	
Comments		
Further action required by Department		

Response to Vice Provost Comments /	
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Further Action:	
Date:	

External Examiner Report 2016-17

Full name and title	Dr Timo Betcke									
Home institution or other affiliation	University College London									
Degree being examined (e.g. BSc/GEP/MBBS/MEng/MSc/MRes)	MSc									
Subject and part being examined (e.g. Biology)	Applied Mathematics									
Year of Tenure	1*:		2:	x	3:		4*:		5*:	

* If this is your first or final year of office please ensure you complete Section 8 of this report.

1. Programme / Curriculum

1(a)	Programme and Module Information – did you receive:	Yes	No	N/A
(i)	Programme handbook(s) / programme specification including programme learning outcomes?		x	
(ii)	Syllabus or module descriptors including learning outcomes?		x	
(iii)	Assessment briefs / marking criteria	x		
(iv)	Sufficient information about the programme(s) / modules in order to fulfil your role?	x		
Comments (particularly if you answered 'NO' to any of the above)				
All the required information is available online or given on request.				

1(b)	Please comment on the strengths and weaknesses of the Degree Programme in relation to:
(i)	The balance and content of the degree programme(s) in relation to stated learning outcomes; The programme provides an outstanding education in Advanced Applied Mathematics in line with Imperial's leading international reputation.
(ii)	Coherence and currency of the programme(s) and the appropriateness of compulsory modules/units in relation to stated learning outcomes; The MSc programme provides a well-rounded and comprehensive set of modules to cover all relevant aspects of Applied Mathematics.
(iii)	Suitability of methods and adequacy of teaching as reflected by the standards achieved by candidates; Teaching consists of a mixture of taught courses, module projects and a larger research thesis at the end. The standards achieved by the candidates is very high and reflects the outstanding teaching in the MSc Programme.

Departmental response to issues and suggestions raised in Section 1

We thank Dr Betcke for his comments.

2. Assessment Strategy

2.	Please comment on the assessment strategy in relation to:
(i)	The rigour, appropriateness and overall quality of the methods of assessment (unseen written papers, essays/dissertations, orals, clinical examinations) in relation to the level of study and the intended learning outcomes;
	The assessment is appropriate and of high international level.
(ii)	The balance and comparability of assessment methods across modules of the same level and the suitability of the overall assessment load for the programme(s);
	There were some issues with very high grades achieved in the scientific computing projects, compared to other modules. But these have been discussed in detail and appropriate changes undertaken for the next year.
(iii)	The weighting in the final assessment between years of the programme(s) and in relation to the number of programme modules completed;
	No issues here.

Departmental response to issues and suggestions raised in Section 2

We thank Dr Betcke for the comments. We are aware of the issue with the mark distribution in the Scientific Computing module. This was also raised during our UG exam board meeting. Measures have been taken to reconcile this issue.

3. Assessment Process, Marking and Moderation

3(a)	Draft assessments	Yes	No	N/A
(i)	Did you receive all of the necessary draft assessments for comment / approval?	x		
(ii)	Was the nature and level of the questions (or tasks) appropriate?	x		
(iii)	Were suitable arrangements in place to consider your comments on the draft assessments?	x		
(iv)	Did you receive feedback on your comments?	x		
Comments (particularly if you answered 'NO' to any of the above)				

3(b)	Marking and Moderation of scripts (examination, assessed coursework, dissertation/project reports)	Yes	No	N/A
(i)	Did you receive a sufficient number of scripts and other assessed work, including those of first class, distinction, borderline and failed candidates, for scrutiny?	x		
(ii)	Was the general standard and consistency of marking appropriate?	x		
(iii)	Was there evidence that assessed work had been second-marked internally?	x		
(iv)	Were the scripts marked in such a way as to enable you to see the reasons for the award of given marks?	x		
Comments (particularly if you answered 'NO' to any of the above)				

3(c)	Parts of programmes taken at another institution (e.g. a collaborative partner institution, a year abroad, a year in industry, or under an	Yes	No	N/A
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	International Exchange Scheme			
(i)	Were the procedures for incorporating marks obtained by students at another institution clear and consistently applied?			x
Comments (particularly if you answered 'NO' to the above)				
No such case occurred during the MSc exam board meeting.				

3(d)	Practical Examinations	Yes	No	N/A
(i)	Were satisfactory arrangements made for the conduct of practical examinations?			x
(ii)	Was the general standard and consistency of marking appropriate?			x
Comments (particularly if you answered 'NO' to any of the above)				

3(e)	Oral Assessments (including Viva Voce Examinations)	Yes	No	N/A
(i)	Were satisfactory arrangements made for the conduct of oral assessments (e.g. presentations, poster presentations etc...)?			x
(ii)	Were suitable arrangements made for you to conduct viva voce examinations?			x
(iii)	Was the purpose for conducting a viva voce examination and the criteria for selecting candidates for a viva voce clear?			x
(iv)	Was the assessment of such work appropriate and consistent?			x
Comments (particularly if you answered 'NO' to any of the above)				

3(f)	Please comment on the assessment process, marking and moderation in relation to:
(i)	The suitability of marking schemes / marking criteria and, where appropriate, model answers and the consistency with which these were applied; Marking criteria were consistent. In particular, there were only little differences in style of marking for MSc theses across examiners.
(ii)	The suitability of the procedures for marking and moderation and the consistency with which these were applied; Marking and moderation procedures were consistent.
(iii)	Whether the arrangements for degree classification (e.g. the scheme for the award of honours [UG] / scheme for the award of pass, merit or distinction [PG] – whichever is relevant) are set at the appropriate level and applied consistently; No issues here.
(iv)	The extent to which the assessment process measures student achievement rigorously and fairly against the intended outcomes of the programme(s) and is conducted in line with College policies and regulations Again, there are no problems. The assessment process is very well organised and appropriate with regards to the MSc programme.

Departmental response to issues and suggestions raised in Section 3
We thank Dr Betcke for his comments.

4. Board of Examiners

4(a)	Board of Examiners' Meeting	Yes	No	N/A
(i)	Were you invited to attend the meeting?	x		
(ii)	Were you able to attend the meeting?	x		
(iii)	Was the meeting conducted to your satisfaction?	x		
(iv)	Were you satisfied with the recommendations of the Board of Examiners?	x		
Comments (particularly if you answered 'NO' to any of the above)				

4(b)	Please comment on the following aspect related to Boards of Examiners' Meetings:
(i)	Whether the College procedures governing mitigating circumstances, academic misconduct (e.g. plagiarism cases) and borderline performances were considered and applied fairly and equitably to all students;
	Borderline cases were well discussed. The main issue was unclarity in which cases college rules could be overruled by the exam board and when not. This unclarity could create disadvantages for borderline students in certain cases.

Departmental response to issues and suggestions raised in Section 4

It was unfortunate that some confusion arose during the exam board meeting regarding interpretation of the rules. In the future we will endeavour to clarify the rules beforehand.

5. Academic Standards

5(a)	Please comment on academic standards and student achievement with regard to:
(i)	The appropriateness of the standards set for the awards in relation to the Framework for Higher Education Qualifications, national subject benchmarks and any additional Professional, Statutory and Regulatory Body requirements (where relevant);
	The standards are very high and among the best in the world.
(ii)	The standards of student performance in the programme(s) or parts of programmes and whether these are comparable with standards achieved by students on similar programmes or parts of programmes in other UK higher education institutions of which you have experience;
	Student performance was generally high. I am ever again surprised by the outstanding level achieved by the students after completing the MSc.
(iii)	The extent to which the academic standards and standards of student performance across modules within the programme(s) are comparable;
	Academic standards were comparable with the small caveat of marking in the Scientific Computing module (see above).
(iv)	For external examiners <u>not</u> in their first year of appointment – are the standards of student performance across modules within the programme(s) comparable to those in previous cohorts;
	Yes.

Departmental response to issues and suggestions raised in Section 5

We thank Dr Betcke for his comments.

6. Response to previous year's External Examiner Report

6.	Response to previous year's report	Yes	No	N/A
(i)	Did you receive a formal written response to the previous year's External Examiner report?	x		
(ii)	Are you satisfied that the issues raised in the previous report either have been, or are being, addressed?	x		
Comments (particularly if you answered 'NO' to any of the above)				

Departmental response to issues and suggestions raised in Section 6

N/A

7. Overview Comments, Recommendations and Good Practice

Please provide an overview of your assessment of the programme(s) and modules for which you are responsible as External Examiner. Please identify any specific matters relating to the academic standards of the awards and/or the quality of learning opportunities provided to students that should be addressed. Please also highlight any examples of good and/or innovative practice that you consider to be worthy of wider dissemination within the College.

7(a) Overview Comments

The MSc programme at Imperial is of outstanding quality and very well organised. It is an exemplary programme that produces graduates at a leading international level.

7(b) Recommendations / Suggestions for Enhancement

The programme is a success model. Therefore, fundamental changes would not be appropriate. Instead, slow and careful syllabus changes in line with research developments are the right way to go.

7(c) Examples of good and/or innovative practice in learning, teaching and assessment

I am happy to note that more modules are slowly offering final projects instead of an exam. There should be a good mixture between both modes of assessment.

Departmental response to comments and recommendations in Section 7

We are pleased with the development of the new project-based modules. We thank Dr Betcke for his comments.

8. For Examiners completing their first or final year in office only

For external examiners in their first year of office

8(a)	Please comment on the effectiveness of the arrangements for your induction as an external examiner by the College (if you attended the external examiner induction day) and by the Department

For external examiners in their final year of office – Final Exit Report

8(b)	Please provide an overview of your term of office. This should ideally include comment on any changes in standards of student performance over time, major developments in the provision during your tenure, the implementation of any recommendations for enhancement (this is not an exhaustive list and examiners are welcome to comment on any matters they consider appropriate)

Departmental response to comments in Section 8	
N/A	

External Examiner Signature (an electronic signature is acceptable):	Date of submission:
Timo Betcke	18/11/2017

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Name and title of Department Respondent	Dr Ryan Barnett,
Position:	Applied Mathematics MSc Programme Director
Date:	

External Examiner Report 2016-17

Full name and title	Emilian Parau									
Home institution or other affiliation	University of East Anglia									
Degree being examined (e.g. BSc/GEP/MBBS/MEng/MSc/MRes)	MSc									
Subject and part being examined (e.g. Biology)	Applied Mathematics									
Year of Tenure	1*:	x	2:		3:		4*:		5*:	

* If this is your first or final year of office please ensure you complete Section 8 of this report.

1. Programme / Curriculum

1(a)	Programme and Module Information – did you receive:	Yes	No	N/A
(i)	Programme handbook(s) / programme specification including programme learning outcomes?	x		
(ii)	Syllabus or module descriptors including learning outcomes?	x		
(iii)	Assessment briefs / marking criteria	x		
(iv)	Sufficient information about the programme(s) / modules in order to fulfil your role?	x		
Comments (particularly if you answered 'NO' to any of the above)				

1(b)	Please comment on the strengths and weaknesses of the Degree Programme in relation to:
(i)	The balance and content of the degree programme(s) in relation to stated learning outcomes; The MSc programme has a good balance between taught modules and the final MSc project.
(ii)	Coherence and currency of the programme(s) and the appropriateness of compulsory modules/units in relation to stated learning outcomes; The large number of optional modules is a particular strength of this programme.
(iii)	Suitability of methods and adequacy of teaching as reflected by the standards achieved by candidates; The methods of teaching seem to be adequate and suitable.

Departmental response to issues and suggestions raised in Section 1

We thank Dr Parau for his comments.

2. Assessment Strategy

2.	Please comment on the assessment strategy in relation to:
(i)	The rigour, appropriateness and overall quality of the methods of assessment (unseen written papers, essays/dissertations, orals, clinical examinations) in relation to the level of study and the intended learning outcomes; The methods of assessment for taught modules (written examination, coursework) are appropriate

	and rigorous.
(ii)	The balance and comparability of assessment methods across modules of the same level and the suitability of the overall assessment load for the programme(s);
	The assessment methods were of similar standard on the Applied modules of the same level I supervised. The overall assessment load for the programme is fine.
(iii)	The weighting in the final assessment between years of the programme(s) and in relation to the number of programme modules completed;
	N/A

Departmental response to issues and suggestions raised in Section 2

We thank Dr Parau for his comments.

3. Assessment Process, Marking and Moderation

3(a)	Draft assessments	Yes	No	N/A
(i)	Did you receive all of the necessary draft assessments for comment / approval?	x		
(ii)	Was the nature and level of the questions (or tasks) appropriate?	x		
(iii)	Were suitable arrangements in place to consider your comments on the draft assessments?	x		
(iv)	Did you receive feedback on your comments?	x		
Comments (particularly if you answered 'NO' to any of the above)				

3(b)	Marking and Moderation of scripts (examination, assessed coursework, dissertation/project reports)	Yes	No	N/A
(i)	Did you receive a sufficient number of scripts and other assessed work, including those of first class, distinction, borderline and failed candidates, for scrutiny?	x		
(ii)	Was the general standard and consistency of marking appropriate?	x		
(iii)	Was there evidence that assessed work had been second-marked internally?	x		
(iv)	Were the scripts marked in such a way as to enable you to see the reasons for the award of given marks?			
Comments (particularly if you answered 'NO' to any of the above)				
The final projects were marked by two markers independently. The moderation of marks was done in case of large discrepancies between the two.				

3(c)	Parts of programmes taken at another institution (e.g. a collaborative partner institution, a year abroad, a year in industry, or under an International Exchange Scheme)	Yes	No	N/A
(i)	Were the procedures for incorporating marks obtained by students at another institution clear and consistently applied?			x
Comments (particularly if you answered 'NO' to the above)				

3(d)	Practical Examinations	Yes	No	N/A
(i)	Were satisfactory arrangements made for the conduct of practical			x

	examinations?			
(ii)	Was the general standard and consistency of marking appropriate?			
Comments (particularly if you answered 'NO' to any of the above)				

3(e)	Oral Assessments (including Viva Voce Examinations)	Yes	No	N/A
(i)	Were satisfactory arrangements made for the conduct of oral assessments (e.g. presentations, poster presentations etc...)?			x
(ii)	Were suitable arrangements made for you to conduct viva voce examinations?			x
(iii)	Was the purpose for conducting a viva voce examination and the criteria for selecting candidates for a viva voce clear?			x
(iv)	Was the assessment of such work appropriate and consistent?			x
Comments (particularly if you answered 'NO' to any of the above)				

3(f)	Please comment on the assessment process, marking and moderation in relation to:			
(i)	The suitability of marking schemes / marking criteria and, where appropriate, model answers and the consistency with which these were applied;			
	The marking schemes were generally well-designed and clear.			
(ii)	The suitability of the procedures for marking and moderation and the consistency with which these were applied;			
	After seeing a number of marked scripts in June, the marking of exams was consistent between different scripts and different modules. The procedure of marking the projects is robust.			
(iii)	Whether the arrangements for degree classification (e.g. the scheme for the award of honours [UG] / scheme for the award of pass, merit or distinction [PG] – whichever is relevant) are set at the appropriate level and applied consistently;			
	The degree classification arrangements are at the appropriate level and are applied consistently			
(iv)	The extent to which the assessment process measures student achievement rigorously and fairly against the intended outcomes of the programme(s) and is conducted in line with College policies and regulations			
	They do to a great extent.			

Departmental response to issues and suggestions raised in Section 3				
We thank Dr Parau for his comments.				

4. Board of Examiners

4(a)	Board of Examiners' Meeting	Yes	No	N/A
(i)	Were you invited to attend the meeting?	x		
(ii)	Were you able to attend the meeting?	x		
(iii)	Was the meeting conducted to your satisfaction?	x		
(iv)	Were you satisfied with the recommendations of the Board of Examiners?	x		
Comments (particularly if you answered 'NO' to any of the above)				

4(b)	Please comment on the following aspect related to Boards of Examiners' Meetings:			
(i)	Whether the College procedures governing mitigating circumstances, academic misconduct			

	(e.g. plagiarism cases) and borderline performances were considered and applied fairly and equitably to all students;
	The College procedures for mitigating circumstances on borderline cases were applied fairly and equitably.

Departmental response to issues and suggestions raised in Section 4

We thank Dr Parau for his comments.

5. Academic Standards

5(a).	Please comment on academic standards and student achievement with regard to:
(i)	The appropriateness of the standards set for the awards in relation to the Framework for Higher Education Qualifications, national subject benchmarks and any additional Professional, Statutory and Regulatory Body requirements (where relevant);
	The standards are appropriate, as defined on the QAA Benchmarks for Mathematics for a Master.
(ii)	The standards of student performance in the programme(s) or parts of programmes and whether these are comparable with standards achieved by students on similar programmes or parts of programmes in other UK higher education institutions of which you have experience;
	There are high academic standards for written examinations and projects, comparable with other top institutions in the UK.
(iii)	The extent to which the academic standards and standards of student performance across modules within the programme(s) are comparable;
	The academic standards across modules are comparable, except a couple of modules where the students' marks were higher than usual.
(iv)	For external examiners <u>not</u> in their first year of appointment – are the standards of student performance across modules within the programme(s) comparable to those in previous cohorts;
	N/A

Departmental response to issues and suggestions raised in Section 5

We thank Dr Parau for his comments.

We are aware that the mark distribution for a few of the modules needs to be made more consistent with the others. We have taken measures to fix this.

6. Response to previous year's External Examiner Report

6.	Response to previous year's report	Yes	No	N/A
(i)	Did you receive a formal written response to the previous year's External Examiner report?			x
(ii)	Are you satisfied that the issues raised in the previous report either have been, or are being, addressed?			x
Comments (particularly if you answered 'NO' to any of the above)				

Departmental response to issues and suggestions raised in Section 6

N/A

7. Overview Comments, Recommendations and Good Practice

Please provide an overview of your assessment of the programme(s) and modules for which you are responsible as External Examiner. Please identify any specific matters relating to the academic standards of the awards and/or the quality of learning opportunities provided to students that should be addressed. Please also highlight any examples of good and/or innovative practice that you consider to be worthy of wider dissemination within the College.

7(a)	Overview Comments
I had very good communication by email with Imperial prior to the MSc Board of Examiners. The Board was well organised.	

7(b)	Recommendations / Suggestions for Enhancement
The length of the projects was quite variable, ranging from 29 to 80 pages. A more uniform approach, or an enforcement of rules about the length of the projects would be helpful.	

7(c)	Examples of good and/or innovative practice in learning, teaching and assessment
The comments of markers of the projects were very useful.	

Departmental response to comments and recommendations in Section 7	
We thank Dr Parau for his comments. We agree that this year the lengths of the reports varied more than usual. Our handbook states "A report should normally consist of 30-60 pages. This is only a rough guideline: the appropriate length is a function of the project itself and its subject matter. Excess length disproportionate to the content may be penalised." Some of the weaker reports tended to be short. A number of them would have benefitted from a more thorough exposition (of e.g. background of the field). We will communicate this issue with the project supervisors.	

8. For Examiners completing their first or final year in office only

For external examiners in their first year of office

8(a)	Please comment on the effectiveness of the arrangements for your induction as an external examiner by the College (if you attended the external examiner induction day) and by the Department

For external examiners in their final year of office – Final Exit Report

8(b)	Please provide an overview of your term of office. This should ideally include comment on any changes in standards of student performance over time, major developments in the provision during your tenure, the implementation of any recommendations for enhancement (this is not an exhaustive list and examiners are welcome to comment on any matters they consider
------	---

appropriate)

Departmental response to comments in Section 8

N/A

External Examiner Signature
(an electronic signature is acceptable):

Date of submission:

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**Name and title of
Department Respondent**

Dr Ryan Barnett,

Position:

Applied Mathematics MSc Programme Director

Date:

External Examiner Report 2016-17

Full name and title	Konstantinos Kardaras
Home institution or other affiliation	LSE
Degree being examined (e.g. BSc/GEP/MBBS/MEng/MSc/MRes)	MSc
Subject and part being examined (e.g. Biology)	Mathematics and Finance
Year of Tenure	2

* If this is your first or final year of office please ensure you complete Section 8 of this report.

1. Programme / Curriculum

1(a)	Programme and Module Information – did you receive:	
(i)	Programme handbook(s) / programme specification including programme learning outcomes?	Yes
(ii)	Syllabus or module descriptors including learning outcomes?	Yes
(iii)	Assessment briefs / marking criteria	Yes
(iv)	Sufficient information about the programme(s) / modules in order to fulfil your role?	Yes
Comments (particularly if you answered ‘NO’ to any of the above)		

1(b)	Please comment on the strengths and weaknesses of the Degree Programme in relation to:	
(i)	The balance and content of the degree programme(s) in relation to stated learning outcomes;	Very satisfactory
(ii)	Coherence and currency of the programme(s) and the appropriateness of compulsory modules/units in relation to stated learning outcomes;	Satisfactory – I am happy that there are more computational elements to the courses than the previous year, and I have been told that there will be even more.
(iii)	Suitability of methods and adequacy of teaching as reflected by the standards achieved by candidates;	Very satisfactory

Departmental response to issues and suggestions raised in Section 1	

2. Assessment Strategy

2.	Please comment on the assessment strategy in relation to:	
(i)	The rigour, appropriateness and overall quality of the methods of assessment (unseen written papers, essays/dissertations, orals, clinical examinations) in relation to the level of study and	

	the intended learning outcomes;
	Very satisfactory
(ii)	The balance and comparability of assessment methods across modules of the same level and the suitability of the overall assessment load for the programme(s);
	Very satisfactory
(iii)	The weighting in the final assessment between years of the programme(s) and in relation to the number of programme modules completed;
	Very satisfactory

Departmental response to issues and suggestions raised in Section 2

3. Assessment Process, Marking and Moderation

3(a)	Draft assessments	
(i)	Did you receive all of the necessary draft assessments for comment / approval?	Yes
(ii)	Was the nature and level of the questions (or tasks) appropriate?	Yes
(iii)	Were suitable arrangements in place to consider your comments on the draft assessments?	Yes
(iv)	Did you receive feedback on your comments?	Yes
Comments (particularly if you answered 'NO' to any of the above)		

3(b)	Marking and Moderation of scripts (examination, assessed coursework, dissertation/project reports)	
(i)	Did you receive a sufficient number of scripts and other assessed work, including those of first class, distinction, borderline and failed candidates, for scrutiny?	Yes
(ii)	Was the general standard and consistency of marking appropriate?	Yes
(iii)	Was there evidence that assessed work had been second-marked internally?	Yes
(iv)	Were the scripts marked in such a way as to enable you to see the reasons for the award of given marks?	Yes
Comments (particularly if you answered 'NO' to any of the above)		

3(c)	Parts of programmes taken at another institution (e.g. a collaborative partner institution, a year abroad, a year in industry, or under an International Exchange Scheme)	
(i)	Were the procedures for incorporating marks obtained by students at another institution clear and consistently applied?	N/A
Comments (particularly if you answered 'NO' to the above)		

3(d)	Practical Examinations	
(i)	Were satisfactory arrangements made for the conduct of practical examinations?	N/A
(ii)	Was the general standard and consistency of marking appropriate?	N/A
Comments (particularly if you answered 'NO' to any of the above)		

3(e)	Oral Assessments (including Viva Voce Examinations)	
(i)	Were satisfactory arrangements made for the conduct of oral assessments (e.g. presentations, poster presentations etc...)?	N/A
(ii)	Were suitable arrangements made for you to conduct viva voce examinations?	N/A
(iii)	Was the purpose for conducting a viva voce examination and the criteria for selecting candidates for a viva voce clear?	N/A
(iv)	Was the assessment of such work appropriate and consistent?	N/A
Comments (particularly if you answered 'NO' to any of the above)		

3(f)	Please comment on the assessment process, marking and moderation in relation to:	
(i)	The suitability of marking schemes / marking criteria and, where appropriate, model answers and the consistency with which these were applied;	
	Very satisfactory	
(ii)	The suitability of the procedures for marking and moderation and the consistency with which these were applied;	
	Very satisfactory	
(iii)	Whether the arrangements for degree classification (e.g. the scheme for the award of honours [UG] / scheme for the award of pass, merit or distinction [PG] – whichever is relevant) are set at the appropriate level and applied consistently;	
	Very satisfactory	
(iv)	The extent to which the assessment process measures student achievement rigorously and fairly against the intended outcomes of the programme(s) and is conducted in line with College policies and regulations	
	Very satisfactory	

Departmental response to issues and suggestions raised in Section 3		

4. Board of Examiners

4(a)	Board of Examiners' Meeting	
(i)	Were you invited to attend the meeting?	Yes
(ii)	Were you able to attend the meeting?	Yes
(iii)	Was the meeting conducted to your satisfaction?	Yes
(iv)	Were you satisfied with the recommendations of the Board of Examiners?	Yes
Comments (particularly if you answered 'NO' to any of the above)		

4(b)	Please comment on the following aspect related to Boards of Examiners' Meetings:	
(i)	Whether the College procedures governing mitigating circumstances, academic misconduct (e.g. plagiarism cases) and borderline performances were considered and applied fairly and equitably to all students;	
	They were indeed considered and applied fairly, as much as I could judge.	

Departmental response to issues and suggestions raised in Section 4

5. Academic Standards

5(a).	Please comment on academic standards and student achievement with regard to:	
(i)	The appropriateness of the standards set for the awards in relation to the Framework for Higher Education Qualifications, national subject benchmarks and any additional Professional, Statutory and Regulatory Body requirements (where relevant);	
	Very satisfactory	
(ii)	The standards of student performance in the programme(s) or parts of programmes and whether these are comparable with standards achieved by students on similar programmes or parts of programmes in other UK higher education institutions of which you have experience;	
	Very satisfactory	
(iii)	The extent to which the academic standards and standards of student performance across modules within the programme(s) are comparable;	
	Satisfactory – similar to last year's.	
(iv)	For external examiners <u>not</u> in their first year of appointment – are the standards of student performance across modules within the programme(s) comparable to those in previous cohorts;	
	N/A	

Departmental response to issues and suggestions raised in Section 5

6. Response to previous year's External Examiner Report

6.	Response to previous year's report	
(i)	Did you receive a formal written response to the previous year's External Examiner report?	Yes
(ii)	Are you satisfied that the issues raised in the previous report either have been, or are being, addressed?	Yes
Comments (particularly if you answered 'NO' to any of the above)		

Departmental response to issues and suggestions raised in Section 6

7. Overview Comments, Recommendations and Good Practice

Please provide an overview of your assessment of the programme(s) and modules for which you are responsible as External Examiner. Please identify any specific matters relating to the academic standards of the awards and/or the quality of learning opportunities provided to students that should be addressed.

Please also highlight any examples of good and/or innovative practice that you consider to be worthy of wider dissemination within the College.

7(a)	Overview Comments
A really strong program.	

7(b)	Recommendations / Suggestions for Enhancement
Nothing further than what has been mentioned previously.	

7(c)	Examples of good and/or innovative practice in learning, teaching and assessment

Departmental response to comments and recommendations in Section 7

8. For Examiners completing their first or final year in office only

For external examiners in their first year of office

8(a)	Please comment on the effectiveness of the arrangements for your induction as an external examiner by the College (if you attended the external examiner induction day) and by the Department
Academic and administrative staff are very efficient.	

For external examiners in their final year of office – Final Exit Report

8(b)	Please provide an overview of your term of office. This should ideally include comment on any changes in standards of student performance over time, major developments in the provision during your tenure, the implementation of any recommendations for enhancement (this is not an exhaustive list and examiners are welcome to comment on any matters they consider appropriate)

Departmental response to comments in Section 8

External Examiner Signature (an electronic signature is acceptable):	Date of submission:
Konstantinos Kardaras	1 st of February, 2018

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Name and title of Department Respondent	
Position:	e.g. Director of Undergraduate Studies, Programme Director, Programme Coordinator etc.
Date:	

Read by Vice Provost (Education)		Date:	
Comments			
Further action required by Department			

Response to Vice Provost Comments / Further Action:	
Date:	

External Examiner Report 2016-17

Full name and title	Prof. Leonard H. Soicher
Home institution or other affiliation	Queen Mary University of London
Degree being examined (e.g. BSc/GEP/MBBS/MEng/MSc/MRes)	MSc
Subject and part being examined (e.g. Biology)	Pure Mathematics
Year of Tenure	4 *

* If this is your first or final year of office please ensure you complete Section 8 of this report.

1. Programme / Curriculum

1(a)	Programme and Module Information – did you receive:	
(i)	Programme handbook(s) / programme specification including programme learning outcomes?	No
(ii)	Syllabus or module descriptors including learning outcomes?	No
(iii)	Assessment briefs / marking criteria	Yes
(iv)	Sufficient information about the programme(s) / modules in order to fulfil your role?	Yes
Comments (particularly if you answered 'NO' to any of the above)		
All the information I required was given to me or was available on the Imperial College Department of Mathematics website.		

1(b)	Please comment on the strengths and weaknesses of the Degree Programme in relation to:	
(i)	The balance and content of the degree programme(s) in relation to stated learning outcomes; As in previous years, I was impressed with the breadth and depth of the taught modules offered to students on the MSc in Pure Mathematics. The balance between taught modules and the project dissertation component was sensible.	
(ii)	Coherence and currency of the programme(s) and the appropriateness of compulsory modules/units in relation to stated learning outcomes; The overall programme is demanding and coherent.	
(iii)	Suitability of methods and adequacy of teaching as reflected by the standards achieved by candidates; There was a broad range of achievement, with many candidates achieving an MSc with Distinction or Merit. The results indicate that the teaching methods are adequate.	

Departmental response to issues and suggestions raised in Section 1	
None required	

2. Assessment Strategy

2.	Please comment on the assessment strategy in relation to:
(i)	The rigour, appropriateness and overall quality of the methods of assessment (unseen written papers, essays/dissertations, orals, clinical examinations) in relation to the level of study and the intended learning outcomes;
	For the MSc in Pure Mathematics taught modules, I was the External Examiner for Algebra and Number Theory, and was happy overall with the quality of the taught module examinations in those subject areas. In addition to the taught modules, the MSc students each gave an oral presentation and submitted a substantial project dissertation, marked by their supervisor and a second marker, and all the project marks were moderated. This was entirely appropriate.
(ii)	The balance and comparability of assessment methods across modules of the same level and the suitability of the overall assessment load for the programme(s);
	This all seemed good.
(iii)	The weighting in the final assessment between years of the programme(s) and in relation to the number of programme modules completed;
	This is not applicable to the one-year MSc in Pure Mathematics.

Departmental response to issues and suggestions raised in Section 2	
None required	

3. Assessment Process, Marking and Moderation

3(a)	Draft assessments	
(i)	Did you receive all of the necessary draft assessments for comment / approval?	Yes
(ii)	Was the nature and level of the questions (or tasks) appropriate?	Yes
(iii)	Were suitable arrangements in place to consider your comments on the draft assessments?	Yes
(iv)	Did you receive feedback on your comments?	Yes
Comments (particularly if you answered 'NO' to any of the above)		

3(b)	Marking and Moderation of scripts (examination, assessed coursework, dissertation/project reports)	
(i)	Did you receive a sufficient number of scripts and other assessed work, including those of first class, distinction, borderline and failed candidates, for scrutiny?	Yes
(ii)	Was the general standard and consistency of marking appropriate?	Yes
(iii)	Was there evidence that assessed work had been second-marked internally?	Yes
(iv)	Were the scripts marked in such a way as to enable you to see the reasons for the award of given marks?	Yes
Comments (particularly if you answered 'NO' to any of the above)		

3(c)	Parts of programmes taken at another institution (e.g. a collaborative partner institution, a year abroad, a year in industry, or under an International Exchange Scheme)	
(i)	Were the procedures for incorporating marks obtained by students at another institution clear and consistently applied?	N/A

Comments (particularly if you answered 'NO' to the above)

3(d) Practical Examinations

- | | | |
|------|--|-----|
| (i) | Were satisfactory arrangements made for the conduct of practical examinations? | N/A |
| (ii) | Was the general standard and consistency of marking appropriate? | N/A |

Comments (particularly if you answered 'NO' to any of the above)

3(e) Oral Assessments (including Viva Voce Examinations)

- | | | |
|-------|--|-----|
| (i) | Were satisfactory arrangements made for the conduct of oral assessments (e.g. presentations, poster presentations etc...)? | Yes |
| (ii) | Were suitable arrangements made for you to conduct viva voce examinations? | N/A |
| (iii) | Was the purpose for conducting a viva voce examination and the criteria for selecting candidates for a viva voce clear? | N/A |
| (iv) | Was the assessment of such work appropriate and consistent? | N/A |

Comments (particularly if you answered 'NO' to any of the above)

I was not involved in the assessment of the student presentations (nor should I have been).

3(f) Please comment on the assessment process, marking and moderation in relation to:

- | | |
|-------|--|
| (i) | The suitability of marking schemes / marking criteria and, where appropriate, model answers and the consistency with which these were applied; |
| | I was happy with these. |
| (ii) | The suitability of the procedures for marking and moderation and the consistency with which these were applied; |
| | I was happy with these. |
| | In particular, I was pleased with the project marking guidelines, the project marking framework, and mark sheets requiring both project markers to justify their award of marks with respect to the marking guidelines. I was also pleased that the project marks were moderated to help ensure consistency. |
| (iii) | Whether the arrangements for degree classification (e.g. the scheme for the award of honours [UG] / scheme for the award of pass, merit or distinction [PG] – whichever is relevant) are set at the appropriate level and applied consistently; |
| | These were set at the appropriate levels and applied consistently. |
| (iv) | The extent to which the assessment process measures student achievement rigorously and fairly against the intended outcomes of the programme(s) and is conducted in line with College policies and regulations |
| | I believe the assessment process measured well student achievement. |

Departmental response to issues and suggestions raised in Section 3

None required

4. Board of Examiners

4(a) Board of Examiners' Meeting

(i)	Were you invited to attend the meeting?	Yes
(ii)	Were you able to attend the meeting?	No
(iii)	Was the meeting conducted to your satisfaction?	N/A
(iv)	Were you satisfied with the recommendations of the Board of Examiners?	Yes
Comments (particularly if you answered 'NO' to any of the above)		
Although I was unable to attend the Board of Examiners' meeting, I was sent the minutes of the meeting and the results of the students, and was happy with these.		

4(b)	Please comment on the following aspect related to Boards of Examiners' Meetings:	
(i)	Whether the College procedures governing mitigating circumstances, academic misconduct (e.g. plagiarism cases) and borderline performances were considered and applied fairly and equitably to all students;	
	From the minutes of the Board of Examiners' meeting, this appears to be the case.	

Departmental response to issues and suggestions raised in Section 4	
None required	

5. Academic Standards

5(a).	Please comment on academic standards and student achievement with regard to:	
(i)	The appropriateness of the standards set for the awards in relation to the Framework for Higher Education Qualifications, national subject benchmarks and any additional Professional, Statutory and Regulatory Body requirements (where relevant);	
	Standards in Mathematics at Imperial College are very high.	
(ii)	The standards of student performance in the programme(s) or parts of programmes and whether these are comparable with standards achieved by students on similar programmes or parts of programmes in other UK higher education institutions of which you have experience;	
	Mathematics students at Imperial College are taught more advanced material and write more challenging exams than at Queen Mary University of London. This is appropriate given the high entry requirements at Imperial, and the need to challenge and differentiate their higher performing students.	
(iii)	The extent to which the academic standards and standards of student performance across modules within the programme(s) are comparable;	
	The standards across modules are generally comparable.	
(iv)	For external examiners <u>not</u> in their first year of appointment – are the standards of student performance across modules within the programme(s) comparable to those in previous cohorts;	
	Yes.	

Departmental response to issues and suggestions raised in Section 5	
None required	

6. Response to previous year's External Examiner Report

6.	Response to previous year's report
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(i)	Did you receive a formal written response to the previous year's External Examiner report?	Yes
(ii)	Are you satisfied that the issues raised in the previous report either have been, or are being, addressed?	Yes
Comments (particularly if you answered 'NO' to any of the above)		

Departmental response to issues and suggestions raised in Section 6

None required

7. Overview Comments, Recommendations and Good Practice

Please provide an overview of your assessment of the programme(s) and modules for which you are responsible as External Examiner. Please identify any specific matters relating to the academic standards of the awards and/or the quality of learning opportunities provided to students that should be addressed. Please also highlight any examples of good and/or innovative practice that you consider to be worthy of wider dissemination within the College.

7(a)	Overview Comments
I continue to be impressed by the breadth and high level of pure mathematics taught at Imperial College.	

7(b)	Recommendations / Suggestions for Enhancement
I would consider the possibility of awarding an appropriate exit qualification to a student who fails the MSc but achieves sufficient passes to qualify for a PG Certificate or PG Diploma.	

7(c)	Examples of good and/or innovative practice in learning, teaching and assessment
The project marking procedures are good.	

Departmental response to comments and recommendations in Section 7

We shall discuss this suggestion at the next MSc Exam Board meeting.

8. For Examiners completing their first or final year in office only

For external examiners in their first year of office

8(a)	Please comment on the effectiveness of the arrangements for your induction as an external examiner by the College (if you attended the external examiner induction day) and by the Department

For external examiners in their final year of office – Final Exit Report

8(b)	Please provide an overview of your term of office. This should ideally include comment on any
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changes in standards of student performance over time, major developments in the provision during your tenure, the implementation of any recommendations for enhancement (this is not an exhaustive list and examiners are welcome to comment on any matters they consider appropriate)

Since the setting and results of level-7 exams are handled by the undergraduate Mathematics Exam Board, my main role as MSc External Examiner has been in considering the MSc projects and their assessment. I am pleased that over the last four years, there has been substantial improvement in the project marking guidelines, the forms for the project markers, and the project marking moderation. There still needs to be some clarification about what constitutes “original work” in a pure mathematics MSc project, and I believe this is under review.

I was happy to see that this year prizes were established both for the best overall performance and for the best project in the MSc in Pure Mathematics.

Finally, I would like to thank all those involved with the MSc in Pure Mathematics at Imperial College over the last four years.

Departmental response to comments in Section 8

The project marking guidelines are under review at the moment. The circulated draft version has no mention of “original work” which has been replaced by “original interpretation of research level material”.

External Examiner Signature (an electronic signature is acceptable):	Date of submission:
Leonard Soicher	04 January 2018

INTERNAL USE ONLY

Name and title of Department Respondent	Professor Alexei Skorobogatov
Position:	Programme Director
Date:	21 February 2018

Read by Vice Provost (Education)		Date:	
Comments			
Further action required by Department			

Response to Vice Provost Comments / Further Action:	
Date:	

External Examiner Report 2016-17

Full name and title	Professor Anthony Carbery
Home institution or other affiliation	University of Edinburgh
Degree being examined (e.g. BSc/GEP/MBBS/MEng/MSc/MRes)	MSc Pure Mathematics
Subject and part being examined (e.g. Biology)	Pure Mathematics
Year of Tenure	2

* If this is your first or final year of office please ensure you complete Section 8 of this report.

1. Programme / Curriculum

1(a)	Programme and Module Information – did you receive:	
(i)	Programme handbook(s) / programme specification including programme learning outcomes?	Yes
(ii)	Syllabus or module descriptors including learning outcomes?	Yes
(iii)	Assessment briefs / marking criteria	Yes
(iv)	Sufficient information about the programme(s) / modules in order to fulfil your role?	Yes
Comments (particularly if you answered 'NO' to any of the above)		
All in good order.		

1(b)	Please comment on the strengths and weaknesses of the Degree Programme in relation to:	
(i)	The balance and content of the degree programme(s) in relation to stated learning outcomes;	
	This is fine.	
(ii)	Coherence and currency of the programme(s) and the appropriateness of compulsory modules/units in relation to stated learning outcomes;	
	This is also fine.	
(iii)	Suitability of methods and adequacy of teaching as reflected by the standards achieved by candidates;	
	This is also fine.	

Departmental response to issues and suggestions raised in Section 1	
None required	

2. Assessment Strategy

2.	Please comment on the assessment strategy in relation to:	
(i)	The rigour, appropriateness and overall quality of the methods of assessment (unseen written papers, essays/dissertations, orals, clinical examinations) in relation to the level of study and	

	the intended learning outcomes;
	Courses were handled in my examiner's report for the undergraduate programme. One of the courses (sat entirely by MSc students) was mishandled – students were presented with an earlier, inadequate version of the exam that I had worked hard to help knock into shape. Nevertheless, the students on this course all did well and there was no benefit to be gained by further adjustments. The procedures for moderation of the project work that were introduced this year were successful and I am happy with them.
(ii)	The balance and comparability of assessment methods across modules of the same level and the suitability of the overall assessment load for the programme(s);
	As mentioned above, this has improved since last year.
(iii)	The weighting in the final assessment between years of the programme(s) and in relation to the number of programme modules completed;
	This is fine.

Departmental response to issues and suggestions raised in Section 2

The problem of the aforementioned exam was discussed at some length in the context of UG exam setting.

3. Assessment Process, Marking and Moderation

3(a)	Draft assessments
(i)	Did you receive all of the necessary draft assessments for comment / approval? Yes
(ii)	Was the nature and level of the questions (or tasks) appropriate? Yes
(iii)	Were suitable arrangements in place to consider your comments on the draft assessments? Yes
(iv)	Did you receive feedback on your comments? Yes
Comments (particularly if you answered 'NO' to any of the above)	
My answers to (ii) and (iii) are tentative in view of the mishandling of one of the courses mentioned above. (Had the intended procedures worked I would have had no problem.) For (iv) the response was again patchy.	

3(b)	Marking and Moderation of scripts (examination, assessed coursework, dissertation/project reports)
(i)	Did you receive a sufficient number of scripts and other assessed work, including those of first class, distinction, borderline and failed candidates, for scrutiny? Yes
(ii)	Was the general standard and consistency of marking appropriate? Yes
(iii)	Was there evidence that assessed work had been second-marked internally? Yes
(iv)	Were the scripts marked in such a way as to enable you to see the reasons for the award of given marks? Yes
Comments (particularly if you answered 'NO' to any of the above)	
Much better and more transparent procedures were in place this year. I was very confident that the outcomes represented a faithful reflection of the students' efforts. (In at least one case it looked like there might have been some collusion between second and first markers – could this be monitored and hopefully eliminated?)	

3(c)	Parts of programmes taken at another institution (e.g. a collaborative partner institution, a
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	year abroad, a year in industry, or under an International Exchange Scheme	
(i)	Were the procedures for incorporating marks obtained by students at another institution clear and consistently applied?	N/A
Comments (particularly if you answered 'NO' to the above)		

3(d)	Practical Examinations	
(i)	Were satisfactory arrangements made for the conduct of practical examinations?	N/A
(ii)	Was the general standard and consistency of marking appropriate?	N/A
Comments (particularly if you answered 'NO' to any of the above)		

3(e)	Oral Assessments (including Viva Voce Examinations)	
(i)	Were satisfactory arrangements made for the conduct of oral assessments (e.g. presentations, poster presentations etc...)?	N/A
(ii)	Were suitable arrangements made for you to conduct viva voce examinations?	N/A
(iii)	Was the purpose for conducting a viva voce examination and the criteria for selecting candidates for a viva voce clear?	N/A
(iv)	Was the assessment of such work appropriate and consistent?	N/A
Comments (particularly if you answered 'NO' to any of the above)		

3(f)	Please comment on the assessment process, marking and moderation in relation to:	
(i)	The suitability of marking schemes / marking criteria and, where appropriate, model answers and the consistency with which these were applied;	
	See my report on the undergraduate programme. As mentioned above there was one course which required a lot of work from me to knock the exam into shape; and then the students were presented with the very first and very flawed version at the examination itself. In this case the marks were necessarily somewhat notional but all students nevertheless performed well. In all other cases it was fine.	
(ii)	The suitability of the procedures for marking and moderation and the consistency with which these were applied;	
	See report on undergraduate programme. As noted above, I am now happy with the procedures for moderating project marks.	
(iii)	Whether the arrangements for degree classification (e.g. the scheme for the award of honours [UG] / scheme for the award of pass, merit or distinction [PG] – whichever is relevant) are set at the appropriate level and applied consistently;	
	Yes, they are.	
(iv)	The extent to which the assessment process measures student achievement rigorously and fairly against the intended outcomes of the programme(s) and is conducted in line with College policies and regulations	
	Yes, very much so (apart the unfortunate case of the wrong exam being sat in one course.)	

Departmental response to issues and suggestions raised in Section 3	
We are monitoring the marking of projects. We will incorporate into the new version of the marking guidelines the clause that the first and second markers should mark projects independently and not discuss between themselves.	

4. Board of Examiners

4(a)	Board of Examiners' Meeting	
(i)	Were you invited to attend the meeting?	Yes
(ii)	Were you able to attend the meeting?	Yes
(iii)	Was the meeting conducted to your satisfaction?	Yes
(iv)	Were you satisfied with the recommendations of the Board of Examiners?	Yes
Comments (particularly if you answered 'NO' to any of the above)		
Once again, procedures were better this year: I was given the opportunity to discuss possible anomalies that I had identified in advance of the meeting and all matters were settled to my satisfaction.		

4(b)	Please comment on the following aspect related to Boards of Examiners' Meetings:
(i)	Whether the College procedures governing mitigating circumstances, academic misconduct (e.g. plagiarism cases) and borderline performances were considered and applied fairly and equitably to all students;
	Yes.

Departmental response to issues and suggestions raised in Section 4
None required

5. Academic Standards

5(a).	Please comment on academic standards and student achievement with regard to:
(i)	The appropriateness of the standards set for the awards in relation to the Framework for Higher Education Qualifications, national subject benchmarks and any additional Professional, Statutory and Regulatory Body requirements (where relevant);
	This is fine.
(ii)	The standards of student performance in the programme(s) or parts of programmes and whether these are comparable with standards achieved by students on similar programmes or parts of programmes in other UK higher education institutions of which you have experience;
	The standards at Imperial remain very high – perhaps a little too high? It seemed to be uncomfortably easy for individual students to fall foul of the quite complicated departmental criteria for award of distinction, merit or pass even though their overall performance seemed clearly in one of these brackets. Perhaps there could be a review of the relevant departmental criteria with a view to simplification (but not essentially watering down)? And the department also maintains a criterion of the project containing original research material in order to be awarded a distinction. This I feel is a little unrealistic. Perhaps this could also be revisited? Finally, it would be good to have some mechanism in place to verify that effective supervision of each project is actually taking place and that students don't fall between the cracks.
(iii)	The extent to which the academic standards and standards of student performance across modules within the programme(s) are comparable;
	This is fine.
(iv)	For external examiners <u>not</u> in their first year of appointment – are the standards of student performance across modules within the programme(s) comparable to those in previous cohorts;

Yes, although this year there was an uncomfortably large number of students near the pass/fail borderline. Perhaps a little more strictness at the recruitment and admissions stage? On the other hand there was a truly outstanding piece of project work this year which surpassed anything I saw last year.

Departmental response to issues and suggestions raised in Section 5

The project marking guidelines are under review at the moment. The circulated draft version has no mention of "original work" which has been replaced by "original interpretation of research level material". We shall review our criteria for the award of distinction, merit and pass and discuss their possible simplification at the next Exam Board meeting. We do have a mechanism to verify that project supervision is actually taking place. (The students and their supervisors are asked to confirm that the supervision is being carried out several times during the project period.) I agree that the admission criteria need to be a bit more strict and will implement this in the current admissions cycle.

6. Response to previous year's External Examiner Report

6. Response to previous year's report

(i)	Did you receive a formal written response to the previous year's External Examiner report?	Yes
(ii)	Are you satisfied that the issues raised in the previous report either have been, or are being, addressed?	Yes

Comments (particularly if you answered 'NO' to any of the above)

As I have said above, I am quite happy with the responses to last year's report.

Departmental response to issues and suggestions raised in Section 6

None required

7. Overview Comments, Recommendations and Good Practice

Please provide an overview of your assessment of the programme(s) and modules for which you are responsible as External Examiner. Please identify any specific matters relating to the academic standards of the awards and/or the quality of learning opportunities provided to students that should be addressed. Please also highlight any examples of good and/or innovative practice that you consider to be worthy of wider dissemination within the College.

7(a) Overview Comments

Imperial is to be commended for its very high academic standards.

7(b) Recommendations / Suggestions for Enhancement

I suggest that further steps are taken to ensure that students sit the correct version of the exam; the department may wish to consider my suggestions in 5. (a) (ii) above.

7(c) Examples of good and/or innovative practice in learning, teaching and assessment

N/A.

Departmental response to comments and recommendations in Section 7

We will consider these suggestions and discuss them at the next Exam Board meeting. See also my reply to Section 6 above.

8. For Examiners completing their first or final year in office only

For external examiners in their first year of office

8(a)	Please comment on the effectiveness of the arrangements for your induction as an external examiner by the College (if you attended the external examiner induction day) and by the Department
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For external examiners in their final year of office – Final Exit Report

8(b)	Please provide an overview of your term of office. This should ideally include comment on any changes in standards of student performance over time, major developments in the provision during your tenure, the implementation of any recommendations for enhancement (this is not an exhaustive list and examiners are welcome to comment on any matters they consider appropriate)
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Departmental response to comments in Section 8

None required

External Examiner Signature (an electronic signature is acceptable):	Date of submission:
A.Carbery	11/11/17

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Name and title of Department Respondent	Professor Alexei Skorobogatov
Position:	Programme Director
Date:	21 February 2018

Read by Vice Provost (Education)		Date:	
Comments			
Further action required by Department			

Response to Vice	
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Provost Comments / Further Action:	
Date:	

External Examiner Report 2016-17

Full name and title	Professor Jim Griffin
Home institution or other affiliation	University of Kent
Degree being examined (e.g. BSc/GEP/MBBS/MEng/MSc/MRes)	MSc
Subject and part being examined (e.g. Biology)	Statistics
Year of Tenure	1*

* If this is your first or final year of office please ensure you complete Section 8 of this report.

1. Programme / Curriculum

1(a)	Programme and Module Information – did you receive:	
(i)	Programme handbook(s) / programme specification including programme learning outcomes?	Yes
(ii)	Syllabus or module descriptors including learning outcomes?	Yes
(iii)	Assessment briefs / marking criteria	Yes
(iv)	Sufficient information about the programme(s) / modules in order to fulfil your role?	Yes
Comments (particularly if you answered ‘NO’ to any of the above)		
I received all exam papers with answers and marking schemes.		

1(b)	Please comment on the strengths and weaknesses of the Degree Programme in relation to:	
(i)	The balance and content of the degree programme(s) in relation to stated learning outcomes;	
	The programme is well-balanced covering a range of theoretical, methodological and applied statistical topics. The programme often a wide-range of optional modules which is a strength of the programme and allows students to consider many different areas of statistics in depth. I'm pleased that the program will be revised to offer different streams within the MSc which will encourage students to take a balanced and coherent programme.	
(ii)	Coherence and currency of the programme(s) and the appropriateness of compulsory modules/units in relation to stated learning outcomes;	
	The programme has compulsory modules which cover probability, statistical inference, applied statistics and computational statistics. This is a simple structure and leads to all students covering the main core ideas of statistics in an efficient way. This is natural and appropriate for a masters programme in statistics. The modules are coherently structured and have good coverage.	
(iii)	Suitability of methods and adequacy of teaching as reflected by the standards achieved by candidates;	
	Overall, this cohort of students had a high level of achievement reflected in the number of distinction and good merit marks awarded. Student projects also generally reflected a high level of achievement with some exceptional work. The teaching involves a mix of theoretical and practical assessments. This suggests that there is a high standard of teaching on this programme.	

Departmental response to issues and suggestions raised in Section 1

Many thanks for your unanimously positive comments. As stated, the introduction of streams in 2019 will help students take a balanced and coherent programme as well as reflect the diversity of modern statistics. We will strive to ensure standards are maintained during this transition period.

2. Assessment Strategy

2.	Please comment on the assessment strategy in relation to:
(i)	The rigour, appropriateness and overall quality of the methods of assessment (unseen written papers, essays/dissertations, orals, clinical examinations) in relation to the level of study and the intended learning outcomes;
	I reviewed all exam papers and these were set at an appropriate level for an MSc examination. On the whole, the exams showed a good range of topics covered. The programme has a good overall balance between statistical theory, statistical methodology and applied statistics.
(ii)	The balance and comparability of assessment methods across modules of the same level and the suitability of the overall assessment load for the programme(s);
	This is a one year programme with all modules taken at the same level. The assessments are comparable across modules. The assessment load seems usual for a programme of this type.
(iii)	The weighting in the final assessment between years of the programme(s) and in relation to the number of programme modules completed;
	This is a one year programme.

Departmental response to issues and suggestions raised in Section 2

Many thanks for your positive comments.

3. Assessment Process, Marking and Moderation

3(a)	Draft assessments	
(i)	Did you receive all of the necessary draft assessments for comment / approval?	Yes
(ii)	Was the nature and level of the questions (or tasks) appropriate?	Yes
(iii)	Were suitable arrangements in place to consider your comments on the draft assessments?	Yes
(iv)	Did you receive feedback on your comments?	Yes
Comments (particularly if you answered 'NO' to any of the above)		
The department has an excellent system for dealing with comments. I was offered the opportunity to see feedback to my comments but I would prefer the feedback to be provide routinely as part of my preparation for the exam board.		

3(b)	Marking and Moderation of scripts (examination, assessed coursework, dissertation/project reports)	
(i)	Did you receive a sufficient number of scripts and other assessed work, including those of first class, distinction, borderline and failed candidates, for scrutiny?	Yes
(ii)	Was the general standard and consistency of marking appropriate?	Yes
(iii)	Was there evidence that assessed work had been second-marked internally?	Yes
(iv)	Were the scripts marked in such a way as to enable you to see the reasons for	Yes

	the award of given marks?	
Comments (particularly if you answered 'NO' to any of the above)		
I had access to all exam scripts. I did not have access to coursework for some 100% continuous assessed modules. It would be useful to have assessments for a range of marks in these modules. The exam scripts were marked to a very high standard with clear explanations of the reasons that marks were awarded.		

3(c)	Parts of programmes taken at another institution (e.g. a collaborative partner institution, a year abroad, a year in industry, or under an International Exchange Scheme)	
(i)	Were the procedures for incorporating marks obtained by students at another institution clear and consistently applied?	N/A
Comments (particularly if you answered 'NO' to the above)		
To my knowledge, there are no such arrangements for this programme.		

3(d)	Practical Examinations	
(i)	Were satisfactory arrangements made for the conduct of practical examinations?	N/A
(ii)	Was the general standard and consistency of marking appropriate?	N/A
Comments (particularly if you answered 'NO' to any of the above)		
There were no practical examinations		

3(e)	Oral Assessments (including Viva Voce Examinations)	
(i)	Were satisfactory arrangements made for the conduct of oral assessments (e.g. presentations, poster presentations etc...)?	N/A
(ii)	Were suitable arrangements made for you to conduct viva voce examinations?	N/A
(iii)	Was the purpose for conducting a viva voce examination and the criteria for selecting candidates for a viva voce clear?	N/A
(iv)	Was the assessment of such work appropriate and consistent?	N/A
Comments (particularly if you answered 'NO' to any of the above)		
Oral assessment does not play a part in this programme.		

3(f)	Please comment on the assessment process, marking and moderation in relation to:	
(i)	The suitability of marking schemes / marking criteria and, where appropriate, model answers and the consistency with which these were applied;	
	The model answers and marking schemes were clearly set out when I was sent the draft exam papers. The marking scheme was consistently applied across scripts.	
(ii)	The suitability of the procedures for marking and moderation and the consistency with which these were applied;	
	The procedures for marking and moderation were normal for UK HEI's and were applied consistently.	
(iii)	Whether the arrangements for degree classification (e.g. the scheme for the award of honours [UG] / scheme for the award of pass, merit or distinction [PG] – whichever is relevant) are set at the appropriate level and applied consistently;	
	The rules for classification on this programme involve students attaining a particular grade on both	

	taught and dissertation components (so, for example, a distinction is only automatically awarded if a distinction is achieved on both the taught and dissertation components). This criterion seems tough to me and I am pleased that the programme's rule will be slightly relaxed in coming years.
(iv)	The extent to which the assessment process measures student achievement rigorously and fairly against the intended outcomes of the programme(s) and is conducted in line with College policies and regulations
	Yes, the assessment process is appropriate for measuring student achievement and is conducted in line with College policies and regulations.

Departmental response to issues and suggestions raised in Section 3

Thank you for your positive comments. We will make sure that all significant pieces of coursework are available for you to view this year.

We acknowledge that our classification scheme is strict and this year will be relaxing the requirements for all levels of degree, while still adhering to the College's Academic and Examination Regulations.

4. Board of Examiners

4(a)	Board of Examiners' Meeting	
(i)	Were you invited to attend the meeting?	Yes
(ii)	Were you able to attend the meeting?	Yes
(iii)	Was the meeting conducted to your satisfaction?	Yes
(iv)	Were you satisfied with the recommendations of the Board of Examiners?	Yes
	Comments (particularly if you answered 'NO' to any of the above)	
	The board of examiners' meeting was run to a high standard with all students' classification considered in a professional and appropriate way.	

4(b)	Please comment on the following aspect related to Boards of Examiners' Meetings:	
(i)	Whether the College procedures governing mitigating circumstances, academic misconduct (e.g. plagiarism cases) and borderline performances were considered and applied fairly and equitably to all students;	
	Yes. All mitigating circumstances were considered by the board. The rules for borderline performance were clearly explained at the start of the board and applied in a fair and equitable way.	

Departmental response to issues and suggestions raised in Section 4

Thank you for your positive comments.

5. Academic Standards

5(a).	Please comment on academic standards and student achievement with regard to:	
(i)	The appropriateness of the standards set for the awards in relation to the Framework for Higher Education Qualifications, national subject benchmarks and any additional Professional, Statutory and Regulatory Body requirements (where relevant);	
	The standards set for awards is appropriate.	
(ii)	The standards of student performance in the programme(s) or parts of programmes and	

	whether these are comparable with standards achieved by students on similar programmes or parts of programmes in other UK higher education institutions of which you have experience;
	Yes, MSc statistics programmes across the UK have a very similar core set of ideas which will be covered which makes comparison relatively simple. Students on this programme are achieving similar, or better, standards than students on similar programmes in other UK HEI's.
(iii)	The extent to which the academic standards and standards of student performance across modules within the programme(s) are comparable;
	Largely, the standards were comparable across modules. Some modules which were 100% continuously assessed had very high average marks which can make discrimination between different levels of attainment difficult on those modules.
(iv)	For external examiners <u>not</u> in their first year of appointment – are the standards of student performance across modules within the programme(s) comparable to those in previous cohorts;

Departmental response to issues and suggestions raised in Section 5

For the continuously assessed modules with high marks, we will ensure the coursework is set to allow better discrimination between the students and to put the marks approximately in line with examination based courses.

6. Response to previous year's External Examiner Report

6.	Response to previous year's report		
(i)	Did you receive a formal written response to the previous year's External Examiner report?	Choose item.	an
(ii)	Are you satisfied that the issues raised in the previous report either have been, or are being, addressed?	Choose item.	an
Comments (particularly if you answered 'NO' to any of the above)			

Departmental response to issues and suggestions raised in Section 6

7. Overview Comments, Recommendations and Good Practice

Please provide an overview of your assessment of the programme(s) and modules for which you are responsible as External Examiner. Please identify any specific matters relating to the academic standards of the awards and/or the quality of learning opportunities provided to students that should be addressed. Please also highlight any examples of good and/or innovative practice that you consider to be worthy of wider dissemination within the College.

7(a)	Overview Comments
Overall, I have been very impressed by the way that the programme is run. There is an excellent range of modules covering core statistical ideas and a range of modern applications. In general, students performed very well with a large number of distinctions. Many projects were high-quality with a few which were truly exceptional. This shows the high quality of students leaving the programme.	

7(b)	Recommendations / Suggestions for Enhancement
I am concerned about the high average marks on some modules which are 100% continuously assessed. This may not allow students who are particularly strong in these subjects to shine relative to students who are stronger on the exam-based subjects. In my opinion, the level and range of marks on continuously assessed modules should be comparable to those from exam-based modules.	

7(c)	Examples of good and/or innovative practice in learning, teaching and assessment
I was particularly impressed by the new system for moderating dissertation marks which used a panel of second markers (who looked at a range of projects) to compare and adjust marks appropriately. I think that this is likely to lead to much more robust marks compared to systems where only first and second markers agree a mark.	

Departmental response to comments and recommendations in Section 7	
Thank you for your overwhelmingly positive comments. As previously stated, we will look to address the issue of some continuously assessed modules having significantly higher marks and look to bring them in line with other modules. I am happy that you were impressed with the new moderating system as we took time and care thinking about the best way to do this. As always, we will continue to iterate and strive to improve our programme year on year. Your feedback is an invaluable part of that process.	

8. For Examiners completing their first or final year in office only

For external examiners in their first year of office

8(a)	Please comment on the effectiveness of the arrangements for your induction as an external examiner by the College (if you attended the external examiner induction day) and by the Department
I was unable to attend the external examiner induction day. The Department was very helpful. They provided the relevant background material, such as handbooks, and the procedure for considering draft exam papers were clearly explained.	

For external examiners in their final year of office – Final Exit Report

8(b)	Please provide an overview of your term of office. This should ideally include comment on any changes in standards of student performance over time, major developments in the provision during your tenure, the implementation of any recommendations for enhancement (this is not an exhaustive list and examiners are welcome to comment on any matters they consider appropriate)

Departmental response to comments in Section 8	

External Examiner Signature (an electronic signature is acceptable):	Date of submission:
Submitted by email	12/10/2017

INTERNAL USE ONLY

Name and title of Department Respondent	Dr Edward Cohen
Position:	Programme Director
Date:	24 Jan 2018