

External Examiner Report (2022-23 Academic Year)

Name of External Examiner	Tiziano De Angelis
Name of Programme	Mathematics and Finance

Programme Information & General Administration

Where relevant, did you receive updated versions of the programme documentation, such as programme handbooks or module descriptors for this academic year?	Yes
Did you receive details of timings for moderation/Boards of Examiners	Yes
As appropriate, did you have access to the Virtual Learning Environment/ relevant online systems for this academic year?	Yes
Are there any further documents/information that you feel you would have enhanced your ability to complete the role?	No
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Response to last year's annual report

Did you receive a formal response to your annual report from last year?	Yes
Did the response address your comments adequately?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Programme and Curriculum Design:

Please provide comments regarding the curriculum, considering; • Expectations of the sector with regards to subject matter (core programme), currency and relevance • Breadth of programme beyond core material (such as elective modules) • Suitability of the learning outcomes • Coherence of the structure and student development through the programme • Whether the programme offers appropriate educational challenge to students • How sustainability has been embedded across the programme • Development and opportunities for student entrepreneurship and co-creation
The programme covers all they key subjects in modern math finance. It also offers students a wealth of elective modules on cutting edge techniques and methods in the financial sector,

which will certainly give graduates a head start in the job market. The programme is challenging and it is pitched at the right level of difficulty.

In your opinion, does the programme meet the requirements of the relevant PSRB or accrediting body	Yes
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Please provide any specific comments with regards to your response above?

Please comment with regards the assessment strategy for the programme, considering the types of assessments and their suitability for the level and field of the study, assessment load across modules and overall for the programme.

assessment strategy is well-designed, fair and it effectively evaluates students' ability and knowledge

Assessment Setting:

Did you receive draft assessment for comment and approval?	Yes
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Did you receive a satisfactory response to any comments that you made?	Yes
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Did you consider the nature and level of the assessment to be fit for purpose, for example pitched at the appropriate FHEQ level and differentiates candidates across the full range of grades?	Yes
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Were you provided any model answers or marking criteria in relation to the assessment?	Yes
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Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.

Marking, Moderation and Feedback

In considering the range of assessment across the programme including coursework, examinations, practical or other forms of assessment:

Did you receive an appropriate sample across the grade profile for consideration?	Yes
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Did you see evidence of the full marking and moderation process? For example, evidence of second marking, internal moderation etc.	Yes
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Did you consider that the marking was consistent and fair?	Yes
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Was the justification of marks clear, including where markers have differing initial outcomes?	Yes
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Was the feedback to students clear and appropriate (identification of strengths and weaknesses, nomenclature in line with the marks awarded etc.)	Yes
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Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.

Placement Learning and Collaborative Provision

In regard to study taken away from the College, for example as part of a placement, study abroad or in another institution, was the process managed appropriately?	Not Applicable
For study abroad, were you provided with a list of partner institutions and the template study abroad plan?	Not Applicable
For study abroad, were the procedures for credit and grade transfer applied fairly?	Not Applicable
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Board of Examiners Meeting:

When considering the administration and operation of the Board of Examiners:	
Was the meeting conducted in line with the College's Conduct of Boards of Examiners ?	Yes
Did the Board consider relevant modules analytics, such as across the year or in comparison to previous years?	Yes
Were the College regulations applied correctly, fairly and appropriately?	Yes
Were borderline candidates considered in a fair and equitable manner?	Yes
Was due consideration given to those candidates that had accepted mitigating circumstances?	Yes
Did you consider that the grade profiles were representative, and in line with similar levels of achievement in other degree awarding bodies?	Yes
Overall are you satisfied with the process and outcomes for this Board of Examiners?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Overview, Recommendations and Good Practice:

Overall Confidence Statements with regards to provision in 2022/2023

In my opinion, Imperial College London is maintaining the threshold academic standards set for its awards in accordance with the FHEQ and relevant Subject Benchmarks Statements.	Yes
In my opinion the assessment process measures student achievement rigorously and fairly against the intended learning outcomes of the programme and is conducted in line with the College's policies and regulations.	Yes
In my experience the academic standards and the achievements of students are comparable with those in other degree awarding bodies.	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Please outline any examples of good or innovative practice in learning, teaching and assessment you would like to highlight with regards to these programme(s):

Please outline any recommendations or suggestions for enhancement you would like to make with regards to these programme(s):
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Where possible, please outline any specific comments that you have with regards to Equality, Diversity and Inclusion. For example, are you able to identify any steps taken by the programme team in the recruitment, design, management, assessment and outcomes for the programme.
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Any additional comments

Please provide any further comments that you wish to make about the provision at the College over academic year 2022.2023.
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Department Response to report

In the box below, please provide the response to the report, with particular attention to any areas in which the examiner has raised concerns.
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Name and Position of Departmental Respondent:	
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Date:	
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External Examiner Report (2022-23 Academic Year)

Name of External Examiner	David Leslie
Name of Programme	MSc in Machine Learning and Data Science

Programme Information & General Administration

Where relevant, did you receive updated versions of the programme documentation, such as programme handbooks or module descriptors for this academic year?	Yes
Did you receive details of timings for moderation/Boards of Examiners	Yes
As appropriate, did you have access to the Virtual Learning Environment/ relevant online systems for this academic year?	Yes
Are there any further documents/information that you feel you would have enhanced your ability to complete the role?	No
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Response to last year's annual report

Did you receive a formal response to your annual report from last year?	Yes
Did the response address your comments adequately?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Programme and Curriculum Design:

Please provide comments regarding the curriculum, considering; • Expectations of the sector with regards to subject matter (core programme), currency and relevance • Breadth of programme beyond core material (such as elective modules) • Suitability of the learning outcomes • Coherence of the structure and student development through the programme • Whether the programme offers appropriate educational challenge to students • How sustainability has been embedded across the programme • Development and opportunities for student entrepreneurship and co-creation
The programme provides excellent coverage of machine learning and data science, with both the fundamental statistical and machine learning tools, the technical computer science for data

engineering, and ethics. The material is current, and will exceed the expectations of most. There is not a huge amount of breadth, but I think it is entirely unnecessary in a programme such as this. The learning outcomes are appropriate, and the programme is fully coherent thanks to the lack of significant optional choices.

In your opinion, does the programme meet the requirements of the relevant PSRB or accrediting body	Not Applicable
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Please provide any specific comments with regards to your response above?

Please comment with regards the assessment strategy for the programme, considering the types of assessments and their suitability for the level and field of the study, assessment load across modules and overall for the programme.

The assessment strategy consists entirely of coursework. The assessments are rigorous and challenging. The fact that every coursework is "significant" means that each gets sent to me individually for checking; in my opinion this is not necessary to maintain standards, and it places a much higher burden on me as external examiner than is normal for an MSc programme (almost exclusively assessed by examination). You should think carefully about how to streamline this for the future (for example, if courseworks were repeated year on year, which would not be unreasonable, then they would surely not need to be checked each time).

Assessment Setting:

Did you receive draft assessment for comment and approval?	Yes
Did you receive a satisfactory response to any comments that you made?	Yes
Did you consider the nature and level of the assessment to be fit for purpose, for example pitched at the appropriate FHEQ level and differentiates candidates across the full range of grades?	Yes
Were you provided any model answers or marking criteria in relation to the assessment?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
The checking process has been very discursive and constructive.	

Marking, Moderation and Feedback

In considering the range of assessment across the programme including coursework, examinations, practical or other forms of assessment:	
Did you receive an appropriate sample across the grade profile for consideration?	Yes
Did you see evidence of the full marking and moderation process? For example, evidence of second marking, internal moderation etc.	Yes
Did you consider that the marking was consistent and fair?	Yes
Was the justification of marks clear, including where markers have differing initial outcomes?	Yes
Was the feedback to students clear and appropriate (identification of strengths and weaknesses, nomenclature in line with the marks awarded etc.)	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

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Placement Learning and Collaborative Provision

In regard to study taken away from the College, for example as part of a placement, study abroad or in another institution, was the process managed appropriately?	Not Applicable
For study abroad, were you provided with a list of partner institutions and the template study abroad plan?	Not Applicable
For study abroad, were the procedures for credit and grade transfer applied fairly?	Not Applicable
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Board of Examiners Meeting:

When considering the administration and operation of the Board of Examiners:	
Was the meeting conducted in line with the College's Conduct of Boards of Examiners ?	Yes
Did the Board consider relevant modules analytics, such as across the year or in comparison to previous years?	Yes
Were the College regulations applied correctly, fairly and appropriately?	Yes
Were borderline candidates considered in a fair and equitable manner?	Yes
Was due consideration given to those candidates that had accepted mitigating circumstances?	Yes
Did you consider that the grade profiles were representative, and in line with similar levels of achievement in other degree awarding bodies?	Yes
Overall are you satisfied with the process and outcomes for this Board of Examiners?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Overview, Recommendations and Good Practice:

Overall Confidence Statements with regards to provision in 2022/2023

In my opinion, Imperial College London is maintaining the threshold academic standards set for its awards in accordance with the FHEQ and relevant Subject Benchmarks Statements.	Yes
In my opinion the assessment process measures student achievement rigorously and fairly against the intended learning outcomes of the programme and is conducted in line with the College's policies and regulations.	Yes
In my experience the academic standards and the achievements of students are comparable with those in other degree awarding bodies.	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
The standard achieved by the students on the programme is extremely high.	

Please outline any examples of good or innovative practice in learning, teaching and assessment you would like to highlight with regards to these programme(s):

Please outline any recommendations or suggestions for enhancement you would like to make with regards to these programme(s):
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Where possible, please outline any specific comments that you have with regards to Equality, Diversity and Inclusion. For example, are you able to identify any steps taken by the programme team in the recruitment, design, management, assessment and outcomes for the programme.
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Any additional comments

Please provide any further comments that you wish to make about the provision at the College over academic year 2022.2023.
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Department Response to report

In the box below, please provide the response to the report, with particular attention to any areas in which the examiner has raised concerns.
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Name and Position of Departmental Respondent:	
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Date:	
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External Examiner Report (2022-23 Academic Year)

Name of External Examiner	David Woods
Name of Programme	MSc Statistics

Programme Information & General Administration

Where relevant, did you receive updated versions of the programme documentation, such as programme handbooks or module descriptors for this academic year?	Yes
Did you receive details of timings for moderation/Boards of Examiners	Yes
As appropriate, did you have access to the Virtual Learning Environment/ relevant online systems for this academic year?	Yes
Are there any further documents/information that you feel you would have enhanced your ability to complete the role?	No
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Response to last year's annual report

Did you receive a formal response to your annual report from last year?	Yes
Did the response address your comments adequately?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

{from here questions are for all examiners}

Programme and Curriculum Design:

Please provide comments regarding the curriculum, considering; • Expectations of the sector with regards to subject matter (core programme), currency and relevance • Breadth of programme beyond core material (such as elective modules) • Suitability of the learning outcomes • Coherence of the structure and student development through the programme • Whether the programme offers appropriate educational challenge to students • How sustainability has been embedded across the programme • Development and opportunities for student entrepreneurship and co-creation

Curriculum contains to be high quality, to a standard one would expect from Imperial. Pathways and modules are being updated to reflect changing employer/student demands, to incorporate new advances in the subject and to react to changes in the learning environment (e.g., generative AI).	
In your opinion, does the programme meet the requirements of the relevant PSRB or accrediting body	Not Applicable
Please provide any specific comments with regards to your response above?	
Please comment with regards the assessment strategy for the programme, considering the types of assessments and their suitability for the level and field of the study, assessment load across modules and overall for the programme.	
Good mix of assessment types, which continue to be innovated.	

Assessment Setting:

Did you receive draft assessment for comment and approval?	Yes
Did you receive a satisfactory response to any comments that you made?	Yes
Did you consider the nature and level of the assessment to be fit for purpose, for example pitched at the appropriate FHEQ level and differentiates candidates across the full range of grades?	Yes
Were you provided any model answers or marking criteria in relation to the assessment?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Marking, Moderation and Feedback

In considering the range of assessment across the programme including coursework, examinations, practical or other forms of assessment:	
Did you receive an appropriate sample across the grade profile for consideration?	Yes
Did you see evidence of the full marking and moderation process? For example, evidence of second marking, internal moderation etc.	Yes
Did you consider that the marking was consistent and fair?	Yes
Was the justification of marks clear, including where markers have differing initial outcomes?	Yes
Was the feedback to students clear and appropriate (identification of strengths and weaknesses, nomenclature in line with the marks awarded etc.)	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Placement Learning and Collaborative Provision

In regard to study taken away from the College, for example as part of a placement, study abroad or in another institution, was the process managed appropriately?	Not Applicable
For study abroad, were you provided with a list of partner institutions and the template study abroad plan?	Not Applicable
For study abroad, were the procedures for credit and grade transfer applied fairly?	Not Applicable
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Board of Examiners Meeting:

When considering the administration and operation of the Board of Examiners:	
Was the meeting conducted in line with the College's Conduct of Boards of Examiners ?	Yes
Did the Board consider relevant modules analytics, such as across the year or in comparison to previous years?	Yes
Were the College regulations applied correctly, fairly and appropriately?	Yes
Were borderline candidates considered in a fair and equitable manner?	Yes
Was due consideration given to those candidates that had accepted mitigating circumstances?	Yes
Did you consider that the grade profiles were representative, and in line with similar levels of achievement in other degree awarding bodies?	Yes
Overall are you satisfied with the process and outcomes for this Board of Examiners?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Overview, Recommendations and Good Practice:

Overall Confidence Statements with regards to provision in 2022/2023

In my opinion, Imperial College London is maintaining the threshold academic standards set for its awards in accordance with the FHEQ and relevant Subject Benchmarks Statements.	Yes
In my opinion the assessment process measures student achievement rigorously and fairly against the intended learning outcomes of the programme and is conducted in line with the College's policies and regulations.	Yes
In my experience the academic standards and the achievements of students are comparable with those in other degree awarding bodies.	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Please outline any examples of good or innovative practice in learning, teaching and assessment you would like to highlight with regards to these programme(s):
The shift back to in-person exams was successful, with open book exams being preferred as a more authentic assessment experience. I think this is an appropriate and considered step after the changes originally made in response to Covid.
Please outline any recommendations or suggestions for enhancement you would like to make with regards to these programme(s):
I have been consulted on a range of changes which are being proposed, which are innovative and class-leading for a programme of this type.
Where possible, please outline any specific comments that you have with regards to Equality, Diversity and Inclusion. For example, are you able to identify any steps taken by the programme team in the recruitment, design, management, assessment and outcomes for the programme.
Assessment criteria have been appropriately constructed with EDI in mind, e.g., when considering oral assessments.

Any additional comments

Please provide any further comments that you wish to make about the provision at the College over academic year 2022.2023.
Dissertation marks continue to be quite high, relative to taught marks. To some degree, this is completely to be expected; students are studying a project of their choosing in detail, and performance reflects their excitement and interest. And many excellent dissertations result. However, it is always worth paying extra attention to ensure there is not grade inflation in dissertations, and the merit/distinction borderline should continue to be closely monitored.

Department Response to report

In the box below, please provide the response to the report, with particular attention to any areas in which the examiner has raised concerns.	
Name and Position of Departmental Respondent:	
Date:	

External Examiner Report (2022-23 Academic Year)

Name of External Examiner	Matthew Turner
Name of Programme	Mathematics MSc

Programme Information & General Administration

Where relevant, did you receive updated versions of the programme documentation, such as programme handbooks or module descriptors for this academic year?	Mostly
Did you receive details of timings for moderation/Boards of Examiners	Yes
As appropriate, did you have access to the Virtual Learning Environment/ relevant online systems for this academic year?	Yes
Are there any further documents/information that you feel you would have enhanced your ability to complete the role?	No
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Response to last year's annual report

Did you receive a formal response to your annual report from last year?	Yes
Did the response address your comments adequately?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Programme and Curriculum Design:

Please provide comments regarding the curriculum, considering; • Expectations of the sector with regards to subject matter (core programme), currency and relevance • Breadth of programme beyond core material (such as elective modules) • Suitability of the learning outcomes • Coherence of the structure and student development through the programme • Whether the programme offers appropriate educational challenge to students • How sustainability has been embedded across the programme • Development and opportunities for student entrepreneurship and co-creation
The Mathematics MSc is well structured and is inline with the sector as a whole for level and topic availability. The student gets a well structured MSc at imperial.

In your opinion, does the programme meet the requirements of the relevant PSRB or accrediting body	Yes
Please provide any specific comments with regards to your response above?	
Please comment with regards the assessment strategy for the programme, considering the types of assessments and their suitability for the level and field of the study, assessment load across modules and overall for the programme.	
The assessment strategy is good with a good mix of exams and coursework models. The project is substantive and gives the student the opportunity to express their mathematical ability.	

Assessment Setting:

Did you receive draft assessment for comment and approval?	Yes
Did you receive a satisfactory response to any comments that you made?	Yes
Did you consider the nature and level of the assessment to be fit for purpose, for example pitched at the appropriate FHEQ level and differentiates candidates across the full range of grades?	Yes
Were you provided any model answers or marking criteria in relation to the assessment?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
It's good to have some comments from the examiner after the scripts have been marked to get a feeling for how the students did. Some exams had this and some do not.	

Marking, Moderation and Feedback

In considering the range of assessment across the programme including coursework, examinations, practical or other forms of assessment:	
Did you receive an appropriate sample across the grade profile for consideration?	Yes
Did you see evidence of the full marking and moderation process? For example, evidence of second marking, internal moderation etc.	Yes
Did you consider that the marking was consistent and fair?	Yes
Was the justification of marks clear, including where markers have differing initial outcomes?	Yes
Was the feedback to students clear and appropriate (identification of strengths and weaknesses, nomenclature in line with the marks awarded etc.)	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Placement Learning and Collaborative Provision

In regard to study taken away from the College, for example as part of a placement, study abroad or in another institution, was the process managed appropriately?	Not Applicable
For study abroad, were you provided with a list of partner institutions and the template study abroad plan?	Not Applicable
For study abroad, were the procedures for credit and grade transfer applied fairly?	Not Applicable
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Board of Examiners Meeting:

When considering the administration and operation of the Board of Examiners:	
Was the meeting conducted in line with the College's Conduct of Boards of Examiners ?	Yes
Did the Board consider relevant modules analytics, such as across the year or in comparison to previous years?	Yes
Were the College regulations applied correctly, fairly and appropriately?	Yes
Were borderline candidates considered in a fair and equitable manner?	Yes
Was due consideration given to those candidates that had accepted mitigating circumstances?	Yes
Did you consider that the grade profiles were representative, and in line with similar levels of achievement in other degree awarding bodies?	Yes
Overall are you satisfied with the process and outcomes for this Board of Examiners?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Overview, Recommendations and Good Practice:

Overall Confidence Statements with regards to provision in 2022/2023

In my opinion, Imperial College London is maintaining the threshold academic standards set for its awards in accordance with the FHEQ and relevant Subject Benchmarks Statements.	Yes
In my opinion the assessment process measures student achievement rigorously and fairly against the intended learning outcomes of the programme and is conducted in line with the College's policies and regulations.	Yes
In my experience the academic standards and the achievements of students are comparable with those in other degree awarding bodies.	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Please outline any examples of good or innovative practice in learning, teaching and assessment you would like to highlight with regards to these programme(s):
The quality of the projects at Imperial is very high and supervisors should be commended for this.
Please outline any recommendations or suggestions for enhancement you would like to make with regards to these programme(s):
None currently.
Where possible, please outline any specific comments that you have with regards to Equality, Diversity and Inclusion. For example, are you able to identify any steps taken by the programme team in the recruitment, design, management, assessment and outcomes for the programme.
None

Any additional comments

Please provide any further comments that you wish to make about the provision at the College over academic year 2022.2023.
none

Department Response to report

In the box below, please provide the response to the report, with particular attention to any areas in which the examiner has raised concerns.	
Name and Position of Departmental Respondent:	
Date:	

External Examiner Report (2022-23 Academic Year)

Name of External Examiner	Eugene Lytvynov
Name of Programme	MSc Pure Mathematics MSc Pure Mathematics

Programme Information & General Administration

Where relevant, did you receive updated versions of the programme documentation, such as programme handbooks or module descriptors for this academic year?	Yes
Did you receive details of timings for moderation/Boards of Examiners	Yes
As appropriate, did you have access to the Virtual Learning Environment/ relevant online systems for this academic year?	Yes
Are there any further documents/information that you feel you would have enhanced your ability to complete the role?	No
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
The programme administration was very effective.	

Response to last year's annual report

Did you receive a formal response to your annual report from last year?	Yes
Did the response address your comments adequately?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
I received Department's response to my feedback, College level response, and a summary of postgraduate taught external examiners reports for the academic year 2021/2022	

Programme and Curriculum Design:

Please provide comments regarding the curriculum, considering; • Expectations of the sector with regards to subject matter (core programme), currency and relevance • Breadth of programme beyond core material (such as elective modules) • Suitability of the learning outcomes • Coherence of the structure and student development through the programme • Whether the programme offers appropriate educational challenge to students • How sustainability has been embedded across the programme • Development and opportunities for student entrepreneurship and co-creation
I was completely satisfied with the curriculum. As this is an MSc programme in mathematics, it does not have core modules. Instead the programme offers a large number of elective modules

in pure mathematics, in particular those related to Analysis and Geometry (which were in my scope of duties). In all modules for which I was responsible the learning outcomes were fully suitable. The whole programme is designed coherently and offers appropriate educational challenges to students.	
In your opinion, does the programme meet the requirements of the relevant PSRB or accrediting body	Not Applicable
Please provide any specific comments with regards to your response above?	
NA	
Please comment with regards the assessment strategy for the programme, considering the types of assessments and their suitability for the level and field of the study, assessment load across modules and overall for the programme.	
The ways of assessment of the programme are quite standard for a Mathematics Department of a UK institution. For most modules the assessment happens through assessed homework, which is written during the teaching period and a final written examination. For the project, the assessment is based on the written project as well as students presentations. The assessment load is completely adequate. All the assessments, including the exam papers in my scope, were challenging and of an appropriate difficulty for a leading university.	

Assessment Setting:

Did you receive draft assessment for comment and approval?	Yes
Did you receive a satisfactory response to any comments that you made?	Yes
Did you consider the nature and level of the assessment to be fit for purpose, for example pitched at the appropriate FHEQ level and differentiates candidates across the full range of grades?	Yes
Were you provided any model answers or marking criteria in relation to the assessment?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
For all the written examinations, I received a draft of the exam paper with a marking scheme and model solutions. All the exam papers were carefully prepared and internally moderated, so most most did not require any changes at all.	

Marking, Moderation and Feedback

In considering the range of assessment across the programme including coursework, examinations, practical or other forms of assessment:	
Did you receive an appropriate sample across the grade profile for consideration?	Yes
Did you see evidence of the full marking and moderation process? For example, evidence of second marking, internal moderation etc.	Yes
Did you consider that the marking was consistent and fair?	Yes
Was the justification of marks clear, including where markers have differing initial outcomes?	Yes
Was the feedback to students clear and appropriate (identification of strengths and weaknesses, nomenclature in line with the marks awarded etc.)	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

All the marking was carried out in a fair way. In all examinations the examiners used for marking the agreed marking scheme. Additionally, the exam marks were slightly scaled in several modules where it seemed necessary. Marking of the projects was carried

Placement Learning and Collaborative Provision

In regard to study taken away from the College, for example as part of a placement, study abroad or in another institution, was the process managed appropriately?	Not Applicable
For study abroad, were you provided with a list of partner institutions and the template study abroad plan?	Not Applicable
For study abroad, were the procedures for credit and grade transfer applied fairly?	Not Applicable
Please provide any further information with regards to your response, particularly if you have not been able to answer 'yes'.	
NA	

Board of Examiners Meeting:

When considering the administration and operation of the Board of Examiners:	
Was the meeting conducted in line with the College's Conduct of Boards of Examiners ?	Yes
Did the Board consider relevant modules analytics, such as across the year or in comparison to previous years?	Yes
Were the College regulations applied correctly, fairly and appropriately?	Yes
Were borderline candidates considered in a fair and equitable manner?	Yes
Was due consideration given to those candidates that had accepted mitigating circumstances?	Yes
Did you consider that the grade profiles were representative, and in line with similar levels of achievement in other degree awarding bodies?	Yes
Overall are you satisfied with the process and outcomes for this Board of Examiners?	Yes
Please provide any further information with regards to your response, particularly if you have not been able to answer 'yes'.	
I was happy with all aspects of the preparation, administration and operation of the Board of Examiners.	

Overview, Recommendations and Good Practice:

Overall Confidence Statements with regards to provision in 2022/2023

In my opinion, Imperial College London is maintaining the threshold academic standards set for its awards in accordance with the FHEQ and relevant Subject Benchmarks Statements.	Yes
In my opinion the assessment process measures student achievement rigorously and fairly against the intended learning outcomes of the programme and is conducted in line with the College's policies and regulations.	Yes
In my experience the academic standards and the achievements of students are comparable with those in other degree awarding bodies.	Yes

Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.

I was very impressed by the MSc projects. In particular, those projects that received a top marks were of exceptional quality.

Please outline any examples of good or innovative practice in learning, teaching and assessment you would like to highlight with regards to these programme(s):

As an example of innovative practice in teaching I would like to mention that the modules were delivered by a combination of lectures in the form of videos and in-person problem classes. I would expect that, in near future, many other universities will implement such an approach to teaching.

Also I found it very good that all students homework was submitted electronically and all marking was carried out online with the markers comments being saved at an appropriate places of the submitted file.

Please outline any recommendations or suggestions for enhancement you would like to make with regards to these programme(s):

My only recommendation concerns the organisation of the Blackboard page to which the drafts of the exam papers are uploaded: it would be convenient if all examiners clearly indicated which is the latest version of the exam, in particular, which version is for the external examiner. Currently, for some modules, the file was hidden within a conversion of the examiner and the checker and sometimes it was not straightforward to figure out which version is the latest.

Where possible, please outline any specific comments that you have with regards to Equality, Diversity and Inclusion. For example, are you able to identify any steps taken by the programme team in the recruitment, design, management, assessment and outcomes for the programme.

The Department of Mathematics always made necessary adjustments related to any mitigating circumstances of the students. Whenever possible, the adjustments were made during the teaching period. If mitigating circumstances were related to the exams, then such students were proposed to re-sit examination as a first sit. Where it was not possible to make reasonable adjustments related to mitigating circumstances, the Examination Board looked carefully at such students.

Final Exit Report:

Please provide an overview of your term of office, including:

- *any changes in standards of student performance over time
- *major developments in the provision during your tenure
- *the implementation of any recommendations for enhancement
- * any other matters you consider appropriate

Throughout the four years of my tenure the standard of student performance remained constantly high. This was due to two major factors:

-High competition for places in the programme, which allows the Department to select only very strong applicants;

-Very high standards in all aspects of provision of the programme.

Due to the Covid pandemic and related lockdowns, the Department had to carry out major changes in the delivery of the programme and assessment. This included a period of fully online teaching and online examinations, a period of mixture of online and in-person teaching and online examinations, and finally a period of mixture of online and in-person teaching and in-person examinations. As a result of these transformations, the Department developed a way of delivery of modules in which pre-recorded videos of lectures are combined with in-person problem classes.

Department Response to report

In the box below, please provide the response to the report, with particular attention to any areas in which the examiner has raised concerns.

Name and Position of Departmental Respondent:	
Date:	

External Examiner Report (2022-23 Academic Year)

Name of External Examiner	Jason Lotay
Name of Programme	BSc and MSci Mathematics, MSc Pure Mathematics

Programme Information & General Administration

Where relevant, did you receive updated versions of the programme documentation, such as programme handbooks or module descriptors for this academic year?	Mostly
Did you receive details of timings for moderation/Boards of Examiners	Mostly

As appropriate, did you have access to the Virtual Learning Environment/ relevant online systems for this academic year?	Yes
Are there any further documents/information that you feel you would have enhanced your ability to complete the role?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
It would have been good to have more detail as to what tasks needed to be completed by what time and in which session during the External Examiners visit	

Response to last year's annual report

Did you receive a formal response to your annual report from last year?	Yes
Did the response address your comments adequately?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Programme and Curriculum Design:

Please provide comments regarding the curriculum, considering; • Expectations of the sector with regards to subject matter (core programme), currency and relevance • Breadth of programme beyond core material (such as elective modules) • Suitability of the learning outcomes • Coherence of the structure and student development through the programme • Whether the programme offers appropriate educational challenge to students • How sustainability has been embedded across the programme • Development and opportunities for student entrepreneurship and co-creation

The curriculum seems to cover a good range of mathematics at a suitable level. There are some interesting courses reflecting current mathematical developments and interests. The options are certainly varied. The learning outcomes seem suitable for most courses. The course seems quite well structured leading to good student development. The programme does challenge the students. I do not see any evidence of sustainability embedded in the programme, other than the prevalence of online materials. I do not see any evidence for entrepreneurship and co-creation in the pure maths topics I was examining.

In your opinion, does the programme meet the requirements of the relevant PSRB or accrediting body	Yes
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Please provide any specific comments with regards to your response above?

I have no particular additional comments to make.

Please comment with regards the assessment strategy for the programme, considering the types of assessments and their suitability for the level and field of the study, assessment load across modules and overall for the programme.

The assessment strategy seems quite clear and sound. The assessments are primarily standard (i.e. written exams or written dissertations) which are suitable. I am concerned about the coursework components and particularly coursework-based modules in terms of assessment, since often the assessment criteria are much less clear and the marks tend to be high (and out of step with student performance on other modules with written exams).

Assessment Setting:

Did you receive draft assessment for comment and approval?	Yes
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Did you receive a satisfactory response to any comments that you made?	Yes
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Did you consider the nature and level of the assessment to be fit for purpose, for example pitched at the appropriate FHEQ level and differentiates candidates across the full range of grades?	Mostly
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Were you provided any model answers or marking criteria in relation to the assessment?	Mostly
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Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.

Sometimes responses to comments were not given Some of the modules had assessment that did not differentiate well between students, either because all students got high marks, or because there was a bimodal character to the assessment outcome, with students either getting high marks or low marks, but nothing in between. I did not always receive an adequate mark scheme.

Marking, Moderation and Feedback

In considering the range of assessment across the programme including coursework, examinations, practical or other forms of assessment:

Did you receive an appropriate sample across the grade profile for consideration?	No
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Did you see evidence of the full marking and moderation process? For example, evidence of second marking, internal moderation etc.	No
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Did you consider that the marking was consistent and fair?	Mostly
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Was the justification of marks clear, including where markers have differing initial outcomes?	Yes
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Was the feedback to students clear and appropriate (identification of strengths and weaknesses, nomenclature in line with the marks awarded etc.)	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
Given the switch to paperless and disruption/lack of organisation on the External Examiners day, I did not get to see any written exams, and so could not judge the marking.	

Placement Learning and Collaborative Provision

In regard to study taken away from the College, for example as part of a placement, study abroad or in another institution, was the process managed appropriately?	Not Applicable
For study abroad, were you provided with a list of partner institutions and the template study abroad plan?	Not Applicable
For study abroad, were the procedures for credit and grade transfer applied fairly?	Not Applicable
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Board of Examiners Meeting:

When considering the administration and operation of the Board of Examiners:	
Was the meeting conducted in line with the College's Conduct of Boards of Examiners ?	Yes
Did the Board consider relevant modules analytics, such as across the year or in comparison to previous years?	Mostly
Were the College regulations applied correctly, fairly and appropriately?	Yes
Were borderline candidates considered in a fair and equitable manner?	Yes
Was due consideration given to those candidates that had accepted mitigating circumstances?	Yes
Did you consider that the grade profiles were representative, and in line with similar levels of achievement in other degree awarding bodies?	Yes
Overall are you satisfied with the process and outcomes for this Board of Examiners?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
I think more could be done in comparing student performance across years.	

Overview, Recommendations and Good Practice:

Overall Confidence Statements with regards to provision in 2022/2023

In my opinion, Imperial College London is maintaining the threshold academic standards set for its awards in accordance with the FHEQ and relevant Subject Benchmarks Statements.	Yes
In my opinion the assessment process measures student achievement rigorously and fairly against the intended learning outcomes of the programme and is conducted in line with the College's policies and regulations.	Yes

In my experience the academic standards and the achievements of students are comparable with those in other degree awarding bodies.	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Please outline any examples of good or innovative practice in learning, teaching and assessment you would like to highlight with regards to these programme(s):	
I think the algorithmic approach to grade boundaries and mitigating circumstances is a good one.	
Please outline any recommendations or suggestions for enhancement you would like to make with regards to these programme(s):	
I do think the coursework assessments need to be looked at closely, since the marks there seem too high to me. I also think that many of the courses I looked need to look into student engagement/attendance, since this is the most obvious explanation as to why the mark distribution showed the clustering of high and low marks.	
Where possible, please outline any specific comments that you have with regards to Equality, Diversity and Inclusion. For example, are you able to identify any steps taken by the programme team in the recruitment, design, management, assessment and outcomes for the programme.	
I have no comments to make on this point, as there is not enough information for me to work with.	

Any additional comments

Please provide any further comments that you wish to make about the provision at the College over academic year 2022.2023.	
I think the College could have run a more organised and clear External Examiners visit. Many things were not in place on the day, we were left without proper support and often had no instruction as what to do it. We also were not given the appropriate access to materials which meant we could not perform our tasks until much later than planned, truncating our time drastically.	

Department Response to report

In the box below, please provide the response to the report, with particular attention to any areas in which the examiner has raised concerns.

Name and Position of Departmental Respondent:	
Date:	

External Examiner Report (2022-23 Academic Year)

Name of External Examiner	Eugene Lytvynov
Name of Programme	BSc/MSci Mathematics, BEng/MEng Joint Mathematics and Computing

Programme Information & General Administration

Where relevant, did you receive updated versions of the programme documentation, such as programme handbooks or module descriptors for this academic year?	Yes
Did you receive details of timings for moderation/Boards of Examiners	Yes

As appropriate, did you have access to the Virtual Learning Environment/ relevant online systems for this academic year?	Yes
Are there any further documents/information that you feel you would have enhanced your ability to complete the role?	No
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
I timely received all the required information	

Response to last year's annual report

Did you receive a formal response to your annual report from last year?	Yes
Did the response address your comments adequately?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
I am happy with the response.	

Programme and Curriculum Design:

Please provide comments regarding the curriculum, considering; • Expectations of the sector with regards to subject matter (core programme), currency and relevance • Breadth of programme beyond core material (such as elective modules) • Suitability of the learning outcomes • Coherence of the structure and student development through the programme • Whether the programme offers appropriate educational challenge to students • How sustainability has been embedded across the programme • Development and opportunities for student entrepreneurship and co-creation

I was completely satisfied with the curriculum. The core programme in Analysis covers all the topics that one would expect to see in a serious mathematical programme. Beyond the core material the programme offers a large number of elective modules related to Analysis and Geometry. (I mentioned only the fields of maths that were in my scope.) In all modules for which I was responsible the learning outcomes were fully suitable. The whole programme is designed coherently and offers appropriate educational challenges to students.

In your opinion, does the programme meet the requirements of the relevant PSRB or accrediting body	Not Applicable
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Please provide any specific comments with regards to your response above?

NA

Please comment with regards the assessment strategy for the programme, considering the types of assessments and their suitability for the level and field of the study, assessment load across modules and overall for the programme.

The way how the students are assessed is quite standard for a UK institution. For most modules the assessment happens through assessed homework, which is written during the teaching period and a final written examination. For project modules the assessment is based on the written project as well as students presentations. The assessment load is completely adequate. All the assessments, including the exam papers in my scope, were challenging and of an appropriate difficulty for a leading university.

Assessment Setting:

Did you receive draft assessment for comment and approval?	Yes
Did you receive a satisfactory response to any comments that you made?	Yes
Did you consider the nature and level of the assessment to be fit for purpose, for example pitched at the appropriate FHEQ level and differentiates candidates across the full range of grades?	Yes
Were you provided any model answers or marking criteria in relation to the assessment?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
I found the new system of draft exam papers being submitted to Blackboard very convenient.	

Marking, Moderation and Feedback

In considering the range of assessment across the programme including coursework, examinations, practical or other forms of assessment:	
Did you receive an appropriate sample across the grade profile for consideration?	Yes
Did you see evidence of the full marking and moderation process? For example, evidence of second marking, internal moderation etc.	Yes
Did you consider that the marking was consistent and fair?	Yes
Was the justification of marks clear, including where markers have differing initial outcomes?	Yes
Was the feedback to students clear and appropriate (identification of strengths and weaknesses, nomenclature in line with the marks awarded etc.)	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

All the marking was carried out in a fair way. In all examinations the examiners used for marking the agreed marking scheme. Additionally, the exam marks were slightly scaled in several modules where it seemed necessary. Marking of the projects was carried out in a very careful and fair manner, where each marker wrote a justification of the given mark. Additionally a comparison of all project marks has been carried out and some small changes to the marks were done where appropriate.

Placement Learning and Collaborative Provision

In regard to study taken away from the College, for example as part of a placement, study abroad or in another institution, was the process managed appropriately?	Not Applicable
For study abroad, were you provided with a list of partner institutions and the template study abroad plan?	Not Applicable
For study abroad, were the procedures for credit and grade transfer applied fairly?	Not Applicable
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
NA	

Board of Examiners Meeting:

When considering the administration and operation of the Board of Examiners:	
Was the meeting conducted in line with the College's Conduct of Boards of Examiners ?	Yes
Did the Board consider relevant modules analytics, such as across the year or in comparison to previous years?	Yes
Were the College regulations applied correctly, fairly and appropriately?	Yes
Were borderline candidates considered in a fair and equitable manner?	Yes
Was due consideration given to those candidates that had accepted mitigating circumstances?	Yes
Did you consider that the grade profiles were representative, and in line with similar levels of achievement in other degree awarding bodies?	Yes
Overall are you satisfied with the process and outcomes for this Board of Examiners?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
I was happy with all aspects of the preparation, administration and operation of the Board of Examiners.	

Overview, Recommendations and Good Practice:

Overall Confidence Statements with regards to provision in 2022/2023

In my opinion, Imperial College London is maintaining the threshold academic standards set for its awards in accordance with the FHEQ and relevant Subject Benchmarks Statements.	Yes
In my opinion the assessment process measures student achievement rigorously and fairly against the intended learning outcomes of the programme and is conducted in line with the College's policies and regulations.	Yes

In my experience the academic standards and the achievements of students are comparable with those in other degree awarding bodies.	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
In my opinion, Imperial College London offers one of the world's best bachelor programmes in mathematics.	

Please outline any examples of good or innovative practice in learning, teaching and assessment you would like to highlight with regards to these programme(s):
As an example of innovative practice in teaching I would like to mention that the modules were delivered by a combination of lectures in the form of videos and in-person problem classes. I expect that, in near future, many other universities will implement such an approach to teaching. Also I found it very convenient that all students homework was submitted electronically and all marking was carried out online with the marker comments being saved at an appropriate places of the submitted file.
Please outline any recommendations or suggestions for enhancement you would like to make with regards to these programme(s):
My only recommendation concerns the organisation of the Blackboard page to which the drafts of the exam papers are uploaded. It would be more convenient if all examiners clearly indicated where the latest version of the exam is located, in particular, which version is for the external examiner. This year, for some modules, the exam file was hidden within a conversion of the examiner and the checker and sometimes it was not immediate to see which file was the latest version of the exam.
Where possible, please outline any specific comments that you have with regards to Equality, Diversity and Inclusion. For example, are you able to identify any steps taken by the programme team in the recruitment, design, management, assessment and outcomes for the programme.
The Department of Mathematics always made necessary adjustments related to any mitigating circumstances of the students. Whenever possible, the adjustments were made during the teaching period. If mitigating circumstances were related to the exams, then such students were proposed re-sit examination, treated as first sits. Where it was not possible to make reasonable adjustments related to mitigating circumstances, the Examination Board looked very carefully at such students, especially when deciding their degree classification.

Final Exit Report:

Please provide an overview of your term of office, including: *any changes in standards of student performance over time *major developments in the provision during your tenure *the implementation of any recommendations for enhancement * any other matters you consider appropriate
Throughout the four years of my tenure the standard of student performance remained constantly high. This was due to two major factors: -High competition for places in the programme, which allows the Department to select only very strong applicants; -Very high standards in all aspects of provision of the programme. Due to the Covid pandemic and related lockdowns, the Department had to carry out major changes in the delivery of the programme and assessment. This included a period of fully online teaching and online examinations, a period of mixture of online and in-person teaching and online examinations, and finally a period of mixture of online and in-person teaching and in-person examinations. As a result of these transformations, the Department developed a way of delivery of modules in which pre-recorded videos of lectures are combined with in-person

problem classes. I believe this is a really modern approach that is aimed at inclusivity and deserves to stay in the foreseeable future.

Department Response to report

In the box below, please provide the response to the report, with particular attention to any areas in which the examiner has raised concerns.

Name and Position of Departmental
Respondent:

Date:

External Examiner Report (2022-23 Academic Year)

Name of External Examiner	Matthias Troffaes
Name of Programme	Mathematics (section Probability & Statistics)

Programme Information & General Administration

Where relevant, did you receive updated versions of the programme documentation, such as programme handbooks or module descriptors for this academic year?	Yes
Did you receive details of timings for moderation/Boards of Examiners	Yes

As appropriate, did you have access to the Virtual Learning Environment/ relevant online systems for this academic year?	Yes
Are there any further documents/information that you feel you would have enhanced your ability to complete the role?	No
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
I failed to understand the last question.	

Response to last year's annual report

Did you receive a formal response to your annual report from last year?	Yes
Did the response address your comments adequately?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Programme and Curriculum Design:

Please provide comments regarding the curriculum, considering; • Expectations of the sector with regards to subject matter (core programme), currency and relevance • Breadth of programme beyond core material (such as elective modules) • Suitability of the learning outcomes • Coherence of the structure and student development through the programme • Whether the programme offers appropriate educational challenge to students • How sustainability has been embedded across the programme • Development and opportunities for student entrepreneurship and co-creation

Imperial have an impressive programme in probability and statistics, covering a broad range of topics, both foundational and advanced. The programme is coherent and well designed, and comparable or better than that of institutions offering similar courses. The examinations provide students with a clear challenge. However, I also particularly note the integration of project type work into the programme, which permit students to develop more research level skills, going beyond standard learning and assessment through lectures and examinations. This goes beyond what some other institutions do. There is a worry this might cause a large workload, but this seems to be well managed by the department.

In your opinion, does the programme meet the requirements of the relevant PSRB or accrediting body

Yes

Please provide any specific comments with regards to your response above?

Please comment with regards the assessment strategy for the programme, considering the types of assessments and their suitability for the level and field of the study, assessment load across modules and overall for the programme.

The majority of work is assessed through standard examinations. This is usual and suitable for mathematics. The two other main types of assessment go through project and coursework. The project is double marked and then discussed, which is suitable to reduce risks of bias and to make the process more objective. This also follows standard practice in the field. Coursework throughout the year counts for a small fraction of the marks, and again this follows standard practice. Workload overall seems balanced and reasonable.

Assessment Setting:

Did you receive draft assessment for comment and approval?

Yes

Did you receive a satisfactory response to any comments that you made?

Yes

Did you consider the nature and level of the assessment to be fit for purpose, for example pitched at the appropriate FHEQ level and differentiates candidates across the full range of grades?

Yes

Were you provided any model answers or marking criteria in relation to the assessment?

Yes

Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.

The documentation provided was excellent. I particularly liked having a link to each thread on blackboard to quickly find where to find each script and leave my comments. I noted that any comments had been appropriately taken into account. Overall, I was very impressed by the quality of the exam setting process.

Marking, Moderation and Feedback

In considering the range of assessment across the programme including coursework, examinations, practical or other forms of assessment:

Did you receive an appropriate sample across the grade profile for consideration?

Yes

Did you see evidence of the full marking and moderation process? For example, evidence of second marking, internal moderation etc.

Yes

Did you consider that the marking was consistent and fair?

Yes

Was the justification of marks clear, including where markers have differing initial outcomes?

Yes

Was the feedback to students clear and appropriate (identification of strengths and weaknesses, nomenclature in line with the marks awarded etc.)	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
Concerning the first point, the scripts were available to us upon requests, though this year we had little time to look at those carefully, instead focusing on other issues. All projects were available electronically however, and that was very useful. There were some issues with access of module data and grade profiles, though they were eventually all resolved. For coursework, the marks were hard to access, and no scatterplots were available. I note some excessive grade profiles (i.e. very high average marks) for some coursework. The marks for the projects were also rather high, at least in probability and statistics, to a level where I had some slight concerns. For the marking data on projects, there were many different excel sheets to look at, all containing slightly different information, and the sheets were not entirely consistent. It would be easier to have just one sheet to look at, containing all the data needed. Overall, I feel the provision of data for us to look at could be improved so we waste less time on figuring everything out, but I understand the marking boycott meant some things had to be done last minute. Justification for marks was generally provided, and I strongly commend the system for feedback to students. This helps both students to understand their mark, and staff to remember to take any issues forward, making improvements year-on-year.	

Placement Learning and Collaborative Provision

In regard to study taken away from the College, for example as part of a placement, study abroad or in another institution, was the process managed appropriately?	Not Applicable
For study abroad, were you provided with a list of partner institutions and the template study abroad plan?	Not Applicable
For study abroad, were the procedures for credit and grade transfer applied fairly?	Not Applicable
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
I was not asked to look at this aspect of the programme.	

Board of Examiners Meeting:

When considering the administration and operation of the Board of Examiners:	
Was the meeting conducted in line with the College's Conduct of Boards of Examiners ?	Yes
Did the Board consider relevant modules analytics, such as across the year or in comparison to previous years?	Yes
Were the College regulations applied correctly, fairly and appropriately?	Yes
Were borderline candidates considered in a fair and equitable manner?	Yes
Was due consideration given to those candidates that had accepted mitigating circumstances?	Yes
Did you consider that the grade profiles were representative, and in line with similar levels of achievement in other degree awarding bodies?	Yes
Overall are you satisfied with the process and outcomes for this Board of Examiners?	Yes

Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.

I support the way the MAB was dealt with at Imperial. Every effort was made to pre-empt issues resulting from it. Clearly, an admirable group effort has gone into ensuring appropriate mitigation of the effects of the MAB.

Overview, Recommendations and Good Practice:

Overall Confidence Statements with regards to provision in 2022/2023

In my opinion, Imperial College London is maintaining the threshold academic standards set for its awards in accordance with the FHEQ and relevant Subject Benchmarks Statements.	Yes
In my opinion the assessment process measures student achievement rigorously and fairly against the intended learning outcomes of the programme and is conducted in line with the College's policies and regulations.	Yes
In my experience the academic standards and the achievements of students are comparable with those in other degree awarding bodies.	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Please outline any examples of good or innovative practice in learning, teaching and assessment you would like to highlight with regards to these programme(s):

- * **The running of projects, which continue to be of excellent level.**
- * **The quality of the exam papers and quality of marking.**
- * **The examiners feedback to students.**

Please outline any recommendations or suggestions for enhancement you would like to make with regards to these programme(s):

- * **Move the default scaling towards no scaling. It would be good to agree on this at the exam setting process, and to have consistency between modules (which is not the case at the moment). Some care on how to roll this out might be needed (e.g. start from the 1st year).**
- * **Monitor project marks, perhaps look at marking guidelines.**
- * **Take actions to lower coursework marks, especially in modules where these were extremely high (i.e. any with above, say, 85% average).**

Where possible, please outline any specific comments that you have with regards to Equality, Diversity and Inclusion. For example, are you able to identify any steps taken by the programme team in the recruitment, design, management, assessment and outcomes for the programme.

EDI is adequately addressed as far as I could tell.

Any additional comments

Please provide any further comments that you wish to make about the provision at the College over academic year 2022.2023.

Overall I've been very impressed by the level of responsibility, attention to detail, and commitment towards quality, robustness, and fairness of all the processes involved with examinations and education. I also commend that the department arranges for us to talk with the students. As always this has been very insightful, and provides a great opportunity for feedback. I also thank all staff that we've interacted with in various capacities, especially Chris Hallsworth, Helen Haines, and Ioanna Papatsouma, who all promptly and professionally dealt with any issues raised.

Department Response to report

In the box below, please provide the response to the report, with particular attention to any areas in which the examiner has raised concerns.

Name and Position of Departmental Respondent:

Date:

External Examiner Report (2022-23 Academic Year)

Name of External Examiner	Matthew Turner
Name of Programme	UG BSc/MSci Mathematics (inc. pure) BSc Mathematics with Applied Mathematics/Mathematical Physics BSc with Mathematical Computation BSc Mathematics with Statistics BSc Mathematics with Statistics for Finance BSc Mathematics, Optimisation and Statistics Te

Programme Information & General Administration

Where relevant, did you receive updated versions of the programme documentation, such as programme handbooks or module descriptors for this academic year?	Yes
Did you receive details of timings for moderation/Boards of Examiners	Yes

As appropriate, did you have access to the Virtual Learning Environment/ relevant online systems for this academic year?	Yes
Are there any further documents/information that you feel you would have enhanced your ability to complete the role?	No
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Response to last year's annual report

Did you receive a formal response to your annual report from last year?	Yes
Did the response address your comments adequately?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Programme and Curriculum Design:

Please provide comments regarding the curriculum, considering; • Expectations of the sector with regards to subject matter (core programme), currency and relevance • Breadth of programme beyond core material (such as elective modules) • Suitability of the learning outcomes • Coherence of the structure and student development through the programme

• Whether the programme offers appropriate educational challenge to students • How sustainability has been embedded across the programme • Development and opportunities for student entrepreneurship and co-creation	
It's unclear if this has been done or not, but to be honest I wouldn't expect this in a mathematics degree.	
In your opinion, does the programme meet the requirements of the relevant PSRB or accrediting body	Yes
Please provide any specific comments with regards to your response above?	
Please comment with regards the assessment strategy for the programme, considering the types of assessments and their suitability for the level and field of the study, assessment load across modules and overall for the programme.	
There are various assessment types as part of the degree, including closed book exams, coursework and presentations. All these are appropriate for a mathematics degree.	

Assessment Setting:

Did you receive draft assessment for comment and approval?	Yes
Did you receive a satisfactory response to any comments that you made?	Yes
Did you consider the nature and level of the assessment to be fit for purpose, for example pitched at the appropriate FHEQ level and differentiates candidates across the full range of grades?	Yes
Were you provided any model answers or marking criteria in relation to the assessment?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
The new system of using blackboard for exam papers was good, although it was a bit unclear as to which version of the paper I should check as all previous versions were also kept. I think a clear labelling system, i.e. 'for_external' or similar would be good.	

Marking, Moderation and Feedback

In considering the range of assessment across the programme including coursework, examinations, practical or other forms of assessment:	
Did you receive an appropriate sample across the grade profile for consideration?	Yes
Did you see evidence of the full marking and moderation process? For example, evidence of second marking, internal moderation etc.	Yes
Did you consider that the marking was consistent and fair?	Yes
Was the justification of marks clear, including where markers have differing initial outcomes?	Yes
Was the feedback to students clear and appropriate (identification of strengths and weaknesses, nomenclature in line with the marks awarded etc.)	Mostly
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Marking was generally good, and on projects it seems like big score differences has been resolved. One thing which I would have liked was examiner comments on all the exam papers I checked. Some markers did add comments while many did not.

Placement Learning and Collaborative Provision

In regard to study taken away from the College, for example as part of a placement, study abroad or in another institution, was the process managed appropriately?	Yes
For study abroad, were you provided with a list of partner institutions and the template study abroad plan?	No
For study abroad, were the procedures for credit and grade transfer applied fairly?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Board of Examiners Meeting:

When considering the administration and operation of the Board of Examiners:	
Was the meeting conducted in line with the College's Conduct of Boards of Examiners ?	Yes
Did the Board consider relevant modules analytics, such as across the year or in comparison to previous years?	Yes
Were the College regulations applied correctly, fairly and appropriately?	Yes
Were borderline candidates considered in a fair and equitable manner?	Yes
Was due consideration given to those candidates that had accepted mitigating circumstances?	Yes
Did you consider that the grade profiles were representative, and in line with similar levels of achievement in other degree awarding bodies?	Yes
Overall are you satisfied with the process and outcomes for this Board of Examiners?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Overview, Recommendations and Good Practice:

Overall Confidence Statements with regards to provision in 2022/2023

In my opinion, Imperial College London is maintaining the threshold academic standards set for its awards in accordance with the FHEQ and relevant Subject Benchmarks Statements.	Yes
In my opinion the assessment process measures student achievement rigorously and fairly against the intended learning outcomes of the programme and is conducted in line with the College's policies and regulations.	Yes
In my experience the academic standards and the achievements of students are comparable with those in other degree awarding bodies.	Yes

Please provide any further information with regards to your response, particularly if you have not been able to answer 'yes'.

Comparing the Imperial degree to my knowledge of other mathematics degrees in the UK, the Imperial degree is suitable in relation to the industry standard.

Please outline any examples of good or innovative practice in learning, teaching and assessment you would like to highlight with regards to these programme(s):

Those markers who submitted comments on the marking of their scripts is a very good practice, and passing these on to students is something that we do at Surrey.

Please outline any recommendations or suggestions for enhancement you would like to make with regards to these programme(s):

The practice at Imperial is to scale all exams via the PTEM system. Routinely the pass mark for exams is scaled up from 35% to 40%. It is my opinion that scaling of exams should only be undertaken in extreme circumstances. Lecturers should try and form their assessment such that the passmark is 40% and needs no scaling. If scaling does need to be used then it should be used in extreme cases. Note, if an exam is too easy and it needs to be scaled down, then I think it is good practice that those students who get above 40% (50% at level 7) should not be scaled below this point, i.e. the P value should not go above 40.

The scatter plots given to the externals were very useful. One slight inconvenience was that those plots for the coursework only modules were not given initially, and in fact I never got to see my exam I was checking. Next year making sure all these are available would be good.

The marks for the projects, along with comments appear in one spreadsheet, but the final agreed marks then appear in a second spreadsheet. This seems a bit like overkill, and if these could all be on the one spreadsheet this would be great.

Where possible, please outline any specific comments that you have with regards to Equality, Diversity and Inclusion. For example, are you able to identify any steps taken by the programme team in the recruitment, design, management, assessment and outcomes for the programme.

N/A

{All other years} Any additional comments

Please provide any further comments that you wish to make about the provision at the College over academic year 2022.2023.

Overall I think the college did a good job on the marking of assessments, given the marking boycott.

Department Response to report

In the box below, please provide the response to the report, with particular attention to any areas in which the examiner has raised concerns.

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Name and Position of Departmental Respondent:	
Date:	

External Examiner Report (2022-23 Academic Year)

Name of External Examiner	Peter Giesl
Name of Programme	Mathematics

Programme Information & General Administration

Where relevant, did you receive updated versions of the programme documentation, such as programme handbooks or module descriptors for this academic year?	Yes
Did you receive details of timings for moderation/Boards of Examiners	Yes

As appropriate, did you have access to the Virtual Learning Environment/ relevant online systems for this academic year?	Yes
Are there any further documents/information that you feel you would have enhanced your ability to complete the role?	No
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Response to last year's annual report

Did you receive a formal response to your annual report from last year?	Yes
Did the response address your comments adequately?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Programme and Curriculum Design:

Please provide comments regarding the curriculum, considering; • Expectations of the sector with regards to subject matter (core programme), currency and relevance • Breadth of programme beyond core material (such as elective modules) • Suitability of the learning outcomes • Coherence of the structure and student development through the programme • Whether the programme offers appropriate educational challenge to students • How sustainability has been embedded across the programme • Development and opportunities for student entrepreneurship and co-creation

The curriculum is in line with that of other universities, there is a wide breadth of options in higher years, reflecting the expertise of the faculty. The final year projects cover a wider range of topics and offer an additional source of breadth for the students.	
In your opinion, does the programme meet the requirements of the relevant PSRB or accrediting body	Yes
Please provide any specific comments with regards to your response above?	
Please comment with regards the assessment strategy for the programme, considering the types of assessments and their suitability for the level and field of the study, assessment load across modules and overall for the programme.	
Many of the modules are assessed by invigilated (in-person) exams, which is welcome to ensure academically safe assessments. There are some variations of the assessments, and some modules are coursework only assessed. While this is in principle a welcome variability, I have noticed that some coursework-only modules have higher mean marks than exam modules, although it seems that when compared to marks in other modules, this is fair; it's just something to monitor.	

Assessment Setting:

Did you receive draft assessment for comment and approval?	Yes
Did you receive a satisfactory response to any comments that you made?	Yes
Did you consider the nature and level of the assessment to be fit for purpose, for example pitched at the appropriate FHEQ level and differentiates candidates across the full range of grades?	Yes
Were you provided any model answers or marking criteria in relation to the assessment?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Marking, Moderation and Feedback

In considering the range of assessment across the programme including coursework, examinations, practical or other forms of assessment:	
Did you receive an appropriate sample across the grade profile for consideration?	Yes
Did you see evidence of the full marking and moderation process? For example, evidence of second marking, internal moderation etc.	Yes
Did you consider that the marking was consistent and fair?	Yes
Was the justification of marks clear, including where markers have differing initial outcomes?	Yes
Was the feedback to students clear and appropriate (identification of strengths and weaknesses, nomenclature in line with the marks awarded etc.)	Mostly
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
I really valued the detailed general feedback that many module convenors gave to students and externals, and it would be good to see this happening more consistently.	

Placement Learning and Collaborative Provision

In regard to study taken away from the College, for example as part of a placement, study abroad or in another institution, was the process managed appropriately?	Not Applicable
For study abroad, were you provided with a list of partner institutions and the template study abroad plan?	Not Applicable
For study abroad, were the procedures for credit and grade transfer applied fairly?	Not Applicable
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Board of Examiners Meeting:

When considering the administration and operation of the Board of Examiners:	
Was the meeting conducted in line with the College's Conduct of Boards of Examiners ?	Yes
Did the Board consider relevant modules analytics, such as across the year or in comparison to previous years?	Yes
Were the College regulations applied correctly, fairly and appropriately?	Yes
Were borderline candidates considered in a fair and equitable manner?	Yes
Was due consideration given to those candidates that had accepted mitigating circumstances?	Yes
Did you consider that the grade profiles were representative, and in line with similar levels of achievement in other degree awarding bodies?	Yes
Overall are you satisfied with the process and outcomes for this Board of Examiners?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
The scaling has been done carefully and fairly. However, I notice that the routine scaling for exam-based modules is 35 to 40, etc. while for coursework-only modules there was no routine scaling. Moreover, scaling hardly ever is applied down. I believe it might be better to move towards exams that are set in a way that 40 is the pass mark (no routine scaling), and to only use scaling where necessary.	

Overview, Recommendations and Good Practice:

Overall Confidence Statements with regards to provision in 2022/2023

In my opinion, Imperial College London is maintaining the threshold academic standards set for its awards in accordance with the FHEQ and relevant Subject Benchmarks Statements.	Yes
In my opinion the assessment process measures student achievement rigorously and fairly against the intended learning outcomes of the programme and is conducted in line with the College's policies and regulations.	Yes
In my experience the academic standards and the achievements of students are comparable with those in other degree awarding bodies.	Yes

Please provide any further information with regards to your response, particularly if you have not been able to answer 'yes'.

Please outline any examples of good or innovative practice in learning, teaching and assessment you would like to highlight with regards to these programme(s):

I was impressed by the wide range and quality of the final year projects. The way that the department dealt with the missing marks, was very thorough and fair to the students.

Please outline any recommendations or suggestions for enhancement you would like to make with regards to these programme(s):

While the use of blackboard to communicate exam papers and comments is very welcome and enables more dialogue, it would be good to set up a system with automatic notifications when comments come up, as otherwise the externals need to look at blackboard periodically. While the projects were very good, as mentioned above, it seems that the average mark was a first, so perhaps a close monitoring of the project marks would be useful.

Where possible, please outline any specific comments that you have with regards to Equality, Diversity and Inclusion. For example, are you able to identify any steps taken by the programme team in the recruitment, design, management, assessment and outcomes for the programme.

Final Exit Report:

Please provide an overview of your term of office, including:

- *any changes in standards of student performance over time
- *major developments in the provision during your tenure
- *the implementation of any recommendations for enhancement
- * any other matters you consider appropriate

The teaching and marking was of a very high standard throughout my tenure, and the processes have worked well. It was good to see improvements in the way that the project marking and agreement of marks have developed, which is a very difficult task as harmonisation of many faculty and projects in very different areas is required, and the department has done a very good job. It was good for me to be able to finally attend the meeting and meet students in person, and it was also fruitful to discuss with the other externals in person. My recommendation for the future would be to move away from routine scaling, as now basically 35 is the pass mark, which could, e.g. be achieved by rolling it out from the new Year 1. The new borderline rules that were introduced, are working well in practice and the way that the mitigating circumstances are taken into account have also been worked out very well. I would like to thank everyone involved in the exam boards, in particular Chris, for his hard work and dedication, it was a pleasure to be an external.

Department Response to report

In the box below, please provide the response to the report, with particular attention to any areas in which the examiner has raised concerns.

Name and Position of Departmental Respondent:	
Date:	

External Examiner Report (2022-23 Academic Year)

Name of External Examiner	Andrew Archer
Name of Programme	Mathematics (PGT and UG)

Appointment & Induction Process:

Did you find the appointment process timely & fit for purpose?	Yes
If you have responded "mostly" or "no" to this question, please provide more information in the comments section below	
If you attended the central online induction, please comment with regards to any areas you found particularly helpful or you felt could be improved?	
I found it all pretty helpful.	
Did you receive/provided access to the following to support your appointment from the programme team:	
Programme Specification	Mostly
Programme Handbook	Mostly
Module Specifications/syllabus	Mostly
Details of timings for moderation/Boards of Examiners	Yes
Details of shared responsibilities with other External Examiners (for example which modules/assessments are being considered by each examiner)	Yes
Do you consider that you received sufficient information about the programme/modules in order to fulfil your role?	Yes
If you respond "mostly" or "no" to the above, please provide more information in the box below	
No	

Programme Information & General Administration

As appropriate, did you have access to the Virtual Learning Environment/ relevant online systems for this academic year?	Yes
Are there any further documents/information that you feel you would have enhanced your ability to complete the role?	No
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

I had all the information I needed, though some of it was via google, which is why some of the answers above are "Mostly". I'm fine with that.

Programme and Curriculum Design:

Please provide comments regarding the curriculum, considering;

- Expectations of the sector with regards to subject matter (core programme), currency and relevance
- Breadth of programme beyond core material (such as elective modules)
- Suitability of the learning outcomes
- Coherence of the structure and student development through the programme
- Whether the programme offers appropriate educational challenge to students
- How sustainability has been embedded across the programme
- Development and opportunities for student entrepreneurship and co-creation

Overall, I was very impressed with what is being delivered to the Imperial Maths students and also in the mathematics service teaching to other departments in the college. All of the modules offered are relevant and good and I would describe some of the data science related teaching sector leading. I was very pleased to see what your students are learning on that.

The range of modules available to students is impressive too. We certainly don't have the number of staff required to be so diverse in our teaching in the place where I work!

In your opinion, does the programme meet the requirements of the relevant PSRB or accrediting body

Yes

Please provide any specific comments with regards to your response above?

Please comment with regards the assessment strategy for the programme, considering the types of assessments and their suitability for the level and field of the study, assessment load across modules and overall for the programme.

Most of the assessments I looked at were examination papers, which is the standard way to assess mathematics. I was very happy with all the papers I saw.

For a few of the modules, there were also some very good coursework assessments. I could see that staff had worked hard in designing these, with the aim to both engage, educate and assess the students. One of them (MATH60026/MATH70026 Methods For Data Science), with hindsight had probably too much load for the students (i.e. took too much time). The Director of Studies is well aware of this and the plans for next year discussed sounded appropriate to me.

Assessment Setting:

Did you receive draft assessment for comment and approval?

Yes

Did you receive a satisfactory response to any comments that you made?

Yes

Did you consider the nature and level of the assessment to be fit for purpose, for example pitched at the appropriate FHEQ level and differentiates candidates across the full range of grades?

Yes

Were you provided any model answers or marking criteria in relation to the assessment?

Yes

Please provide any further information with regards to your response, particularly if you have not been able to answer 'yes'.

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Marking, Moderation and Feedback

In considering the range of assessment across the programme including coursework, examinations, practical or other forms of assessment:	
Did you receive an appropriate sample across the grade profile for consideration?	Yes
Did you see evidence of the full marking and moderation process? For example, evidence of second marking, internal moderation etc.	Yes
Did you consider that the marking was consistent and fair?	Yes
Was the justification of marks clear, including where markers have differing initial outcomes?	Yes
Was the feedback to students clear and appropriate (identification of strengths and weaknesses, nomenclature in line with the marks awarded etc.)	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Placement Learning and Collaborative Provision

In regard to study taken away from the College, for example as part of a placement, study abroad or in another institution, was the process managed appropriately?	Not Applicable
For study abroad, were you provided with a list of partner institutions and the template study abroad plan?	Not Applicable
For study abroad, were the procedures for credit and grade transfer applied fairly?	Not Applicable
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Board of Examiners Meeting:

When considering the administration and operation of the Board of Examiners:	
Was the meeting conducted in line with the College's Conduct of Boards of Examiners ?	Yes
Did the Board consider relevant modules analytics, such as across the year or in comparison to previous years?	Yes
Were the College regulations applied correctly, fairly and appropriately?	Yes
Were borderline candidates considered in a fair and equitable manner?	Yes
Was due consideration given to those candidates that had accepted mitigating circumstances?	Yes
Did you consider that the grade profiles were representative, and in line with similar levels of achievement in other degree awarding bodies?	Yes
Overall are you satisfied with the process and outcomes for this Board of Examiners?	Yes

Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.

I was deeply impressed by the care and attention to detail of the Director of Studies and Senior Tutor. They definitely go above and beyond what many might think is sufficient.

Overview, Recommendations and Good Practice:

Overall Confidence Statements with regards to provision in 2022/2023

In my opinion, Imperial College London is maintaining the threshold academic standards set for its awards in accordance with the FHEQ and relevant Subject Benchmarks Statements.	Yes
In my opinion the assessment process measures student achievement rigorously and fairly against the intended learning outcomes of the programme and is conducted in line with the College's policies and regulations.	Yes
In my experience the academic standards and the achievements of students are comparable with those in other degree awarding bodies.	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	
I was very impressed by how the senior staff in the department handled the MAB. They really care for the students and did an excellent job making sure that no students negatively impacted in a significant way. For example, the HoD and DoS spent significant time pondering a project mark together!	

Please outline any examples of good or innovative practice in learning, teaching and assessment you would like to highlight with regards to these programme(s):

Please outline any recommendations or suggestions for enhancement you would like to make with regards to these programme(s):

Where possible, please outline any specific comments that you have with regards to Equality, Diversity and Inclusion. For example, are you able to identify any steps taken by the programme team in the recruitment, design, management, assessment and outcomes for the programme.

It is clear that EDI is important to the academics I interacted with at Imperial Maths. I can't really put my finger on any specifics, other than to say I was struck by the good caring attitude they have towards the students.

Any additional comments

Please provide any further comments that you wish to make about the provision at the College over academic year 2022.2023.

Overall, I think the Maths department does an excellent job. There were 2 things that I noted down to recommend for improvement:

- 1. Maybe this is a new external examiner comment, but I would have found a checklist (on paper) of things to go through helpful to have.**
- 2. I have some misgivings about the amount of scaling to marks that is done. I looked very carefully, and in practice there many major changes to marks, but I think it is worth mentioning that in principle too much use of scaling could lead to mitigating poor exam setting. I saw no evidence of that, but to my mind that is the risk with making scaling a "standard" thing to do. We mentioned this to Chris Hailsworth and others and in the exam board Chris summarised to the department my thoughts on scaling very well, so he has clearly taken my (and I think the other external examiners) comments about this on board.**

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Department Response to report

In the box below, please provide the response to the report, with particular attention to any areas in which the examiner has raised concerns.

We thank the external for these supportive comments, after a challenging year of assessment in the face of the marking and assessment boycott.

The major suggestion to acknowledge is with respect of the scaling of exam marks. Our Departmental Teaching Committee has now agreed a proposal for a phased introduction of a policy of no scaling by default. This will start for year 1 students in the coming year and we will seek the external's views on implementation in the summer.

Name and Position of Departmental Respondent:

Chris Hallsworth, DUGS

Date:

20 February 2024

External Examiner Report (2022-23 Academic Year)

Name of External Examiner	Peter Giesl
Name of Programme	MSc Applied Mathematics

Programme Information & General Administration

Where relevant, did you receive updated versions of the programme documentation, such as programme handbooks or module descriptors for this academic year?	Yes
Did you receive details of timings for moderation/Boards of Examiners	Yes

As appropriate, did you have access to the Virtual Learning Environment/ relevant online systems for this academic year?	Yes
Are there any further documents/information that you feel you would have enhanced your ability to complete the role?	No
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Response to last year's annual report

Did you receive a formal response to your annual report from last year?	Yes
Did the response address your comments adequately?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Programme and Curriculum Design:

Please provide comments regarding the curriculum, considering; • Expectations of the sector with regards to subject matter (core programme), currency and relevance • Breadth of programme beyond core material (such as elective modules) • Suitability of the learning outcomes • Coherence of the structure and student development through the programme • Whether the programme offers appropriate educational challenge to students • How sustainability has been embedded across the programme • Development and opportunities for student entrepreneurship and co-creation

The program is coherent and is in line with similar programmes in the UK.	
In your opinion, does the programme meet the requirements of the relevant PSRB or accrediting body	Yes
Please provide any specific comments with regards to your response above?	
Please comment with regards the assessment strategy for the programme, considering the types of assessments and their suitability for the level and field of the study, assessment load across modules and overall for the programme.	
The assessments are appropriate for the programme, and suitable for the level and field of study. The dissertation offers the students a particularly good way of focussing on an area of study that they choose.	

Assessment Setting:

Did you receive draft assessment for comment and approval?	Yes
Did you receive a satisfactory response to any comments that you made?	Yes
Did you consider the nature and level of the assessment to be fit for purpose, for example pitched at the appropriate FHEQ level and differentiates candidates across the full range of grades?	Yes
Were you provided any model answers or marking criteria in relation to the assessment?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Marking, Moderation and Feedback

In considering the range of assessment across the programme including coursework, examinations, practical or other forms of assessment:	
Did you receive an appropriate sample across the grade profile for consideration?	Yes
Did you see evidence of the full marking and moderation process? For example, evidence of second marking, internal moderation etc.	Yes
Did you consider that the marking was consistent and fair?	Yes
Was the justification of marks clear, including where markers have differing initial outcomes?	Yes
Was the feedback to students clear and appropriate (identification of strengths and weaknesses, nomenclature in line with the marks awarded etc.)	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Placement Learning and Collaborative Provision

In regard to study taken away from the College, for example as part of a placement, study abroad or in another institution, was the process managed appropriately?	Not Applicable
For study abroad, were you provided with a list of partner institutions and the template study abroad plan?	Not Applicable
For study abroad, were the procedures for credit and grade transfer applied fairly?	Not Applicable
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Board of Examiners Meeting:

When considering the administration and operation of the Board of Examiners:	
Was the meeting conducted in line with the College's Conduct of Boards of Examiners ?	Yes
Did the Board consider relevant modules analytics, such as across the year or in comparison to previous years?	Yes
Were the College regulations applied correctly, fairly and appropriately?	Yes
Were borderline candidates considered in a fair and equitable manner?	Yes
Was due consideration given to those candidates that had accepted mitigating circumstances?	Yes
Did you consider that the grade profiles were representative, and in line with similar levels of achievement in other degree awarding bodies?	Yes
Overall are you satisfied with the process and outcomes for this Board of Examiners?	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Overview, Recommendations and Good Practice:

Overall Confidence Statements with regards to provision in 2022/2023

In my opinion, Imperial College London is maintaining the threshold academic standards set for its awards in accordance with the FHEQ and relevant Subject Benchmarks Statements.	Yes
In my opinion the assessment process measures student achievement rigorously and fairly against the intended learning outcomes of the programme and is conducted in line with the College's policies and regulations.	Yes
In my experience the academic standards and the achievements of students are comparable with those in other degree awarding bodies.	Yes
Please provide any further information with regards to your response, particularly if you have not been able answer 'yes'.	

Please outline any examples of good or innovative practice in learning, teaching and assessment you would like to highlight with regards to these programme(s):
As said above, the dissertations offer the students an excellent opportunity to focus on an area of their choice, and I was impressed by the quality of some of the dissertations this year.
Please outline any recommendations or suggestions for enhancement you would like to make with regards to these programme(s):
On some rare occasion, the marker did not put written comments in each of the subcategories for the projects.
Where possible, please outline any specific comments that you have with regards to Equality, Diversity and Inclusion. For example, are you able to identify any steps taken by the programme team in the recruitment, design, management, assessment and outcomes for the programme.

Final Exit Report:

Please provide an overview of your term of office, including: *any changes in standards of student performance over time *major developments in the provision during your tenure *the implementation of any recommendations for enhancement * any other matters you consider appropriate
The change of the borderline criteria to a more algorithmic approach is welcome as it ensures fairness across the student cohort. Overall I am very happy with the programme.

Department Response to report

In the box below, please provide the response to the report, with particular attention to any areas in which the examiner has raised concerns.	
Name and Position of Departmental Respondent:	
Date:	