

**EXTERNAL EXAMINER REPORT FORM 2022**

<b>External examiner name:</b>	Igor Potapov		
<b>External examiner home institution:</b>	University of Liverpool		
<b>Course(s) examined:</b>	MSc in Mathematics and Foundations of Computer Science		
<b>Level:</b> (please delete as appropriate)		Postgraduate	

**Please complete both Parts A and B.**

<b>Part A</b>					
		<i>Please (✓) as applicable*</i>	<b>Yes</b>	<b>No</b>	<b>N/A / Other</b>
A1.	Are the academic standards and the achievements of students comparable with those in other UK higher education institutions of which you have experience? <i>[Please refer to paragraph 6 of the Guidelines for External Examiner Reports].</i>		✓		
A2.	Do the threshold standards for the programme appropriately reflect the frameworks for higher education qualifications and any applicable subject benchmark statement? <i>[Please refer to paragraph 7 of the Guidelines for External Examiner Reports].</i>		✓		
A3.	Does the assessment process measure student achievement rigorously and fairly against the intended outcomes of the programme(s)?		✓		
A4.	Is the assessment process conducted in line with the University's policies and regulations?		✓		
A5.	Did you receive sufficient information and evidence in a timely manner to be able to carry out the role of External Examiner effectively?		✓		
A6.	Did you receive a written response to your previous report?		✓		

A7.	Are you satisfied that comments in your previous report have been properly considered, and where applicable, acted upon?	✓		
* <b><i>If you answer “No” to any question, you should provide further comments when you complete Part B.</i></b>				

## **Part B**

In your responses to these questions, please could you include comments on the effectiveness of any changes made to the course or processes in response to the COVID-19 pandemic where appropriate.

### **B1. Academic standards**

- a. *How do academic standards achieved by the students compare with those achieved by students at other higher education institutions of which you have experience?*

The academic standard achieved by the students on this course is exceptionally high. The academics have very high expectations from students, providing challenging mini-projects and dissertation topics. Although significant time is expected to be spent on self-study all supervisors and lecturers support students well with essential materials and guidelines.

- b. *Please comment on student performance and achievement across the relevant programmes or parts of programmes and with reference to academic standards and student performance of other higher education institutions of which you have experience (those examining in joint schools are particularly asked to comment on their subject in relation to the whole award).*

Student performance and achievement in 2021/22 academic years were excellent, with a large proportion of the students being awarded a degree with distinction or merit. The completed mini-projects confirm the firm background in mathematics and computer science that students achieved during their studies. In-person oral presentations of dissertation results show in-depth knowledge of the subject. All students show significant commitment to study and were able to get high-quality or publishable results in their MSc theses.

### **B2. Rigour and conduct of the assessment process**

*Please comment on the rigour and conduct of the assessment process, including whether it ensures equity of treatment for students, and whether it has been conducted fairly and within the University’s regulations and guidance.*

The assessment process was rigorous. All students have been treated fairly and within the University’s regulations and guidance. All mitigating/extenuating cases have been assessed fairly and anonymously. Mini projects were double-blind marked by either two assessors independently or a single assessor for mini projects which had a model solution. In all cases with two assessors, they were asked to discuss the mini projects to agree on a final USM. All mini-projects without explicit marking schemes have been marked by two assessors, allowing external examiners to check the consistency of marking. The oral examinations have been organised in person and students were engaged in a scientific dialogue related to the results of the dissertation, in the presence of the second reader, and internal and external examiners. A few students were allowed to submit the dissertation later due to accepted mitigating circumstances and, in this case, the MSc viva was arranged online and the last presentation was done in January 2023.

### B3. Issues

*Are there any issues which you feel should be brought to the attention of supervising committees in the faculty/department, division or wider University?*

The extensions of the deadlines for the MSc projects create some issues with the synchronisation of exam boards and the deadlines for the final decision about the degrees. Please consider making a clear policy for later submissions and if require include the deadlines for considering deferred projects.

### B4. Good practice and enhancement opportunities


*Please comment/provide recommendations on any **good practice and innovation relating to learning, teaching and assessment**, and any **opportunities to enhance the quality of the learning opportunities** provided to students that should be noted and disseminated more widely as appropriate.*

Most of the mini projects provide clear marking schemes, either in the form of a detailed marking scheme with model solutions and/or mark allocation guidelines in case of open-ended essay-type questions. I would recommend continuing this practice across all modules and providing examples of such assessments to recently recruited staff before they design their own exam questions.

### B5. Any other comments

*Please provide any other comments you may have about any aspect of the examination process. Please also use this space to address any issues specifically required by any applicable professional body. If your term of office is now concluded, please provide an overview here.*

All precious recommendations have been taken into account by the examiners. Many examiners successfully combine the technical challenges of the mini-projects with open-ended questions that allowing to recognize the original work of students and use the full scale of marking.

<b>Signed:</b>	
<b>Date:</b>	31 March 2023

Please ensure you have completed parts A & B, and email your completed form to: [external-examiners@admin.ox.ac.uk](mailto:external-examiners@admin.ox.ac.uk) AND copy it to the applicable divisional contact set out in the guidelines.

**EXTERNAL EXAMINER REPORT FORM 2022**

<b>External examiner name:</b>	Prof. Julia Wolf		
<b>External examiner home institution:</b>	University of Cambridge		
<b>Course(s) examined:</b>	MSc in Mathematics and Foundations of Computer Science (MFoCS)		
<b>Level:</b> (please delete as appropriate)		Postgraduate	

**Please complete both Parts A and B.**

<b>Part A</b>					
		<i>Please (✓) as applicable*</i>	<b>Yes</b>	<b>No</b>	<b>N/A / Other</b>
A1.	Are the academic standards and the achievements of students comparable with those in other UK higher education institutions of which you have experience? <i>[Please refer to paragraph 6 of the Guidelines for External Examiner Reports].</i>		Yes		
A2.	Do the threshold standards for the programme appropriately reflect the frameworks for higher education qualifications and any applicable subject benchmark statement? <i>[Please refer to paragraph 7 of the Guidelines for External Examiner Reports].</i>		Yes		
A3.	Does the assessment process measure student achievement rigorously and fairly against the intended outcomes of the programme(s)?		Yes		
A4.	Is the assessment process conducted in line with the University's policies and regulations?		Yes		
A5.	Did you receive sufficient information and evidence in a timely manner to be able to carry out the role of External Examiner effectively?		Yes		
A6.	Did you receive a written response to your previous report?		Yes		
A7.	Are you satisfied that comments in your previous report have been properly considered, and where applicable, acted upon?				Partially
* <b>If you answer "No" to any question, you should provide further comments when you</b>					

**complete Part B.**

## **Part B**

In your responses to these questions, please could you include comments on the effectiveness of any changes made to the course or processes in response to the COVID-19 pandemic where appropriate.

### **B1. Academic standards**

- a. *How do academic standards achieved by the students compare with those achieved by students at other higher education institutions of which you have experience?*

The academic standards achieved by students on the MFoCS are comparable with those of students at other top-tier higher-education institutions. The dissertations in particular cover a wide range of cutting-edge mathematics and computer science and provide a solid foundation for those wishing to pursue further research in these areas, while at the same time developing essential transferable skills.

The programme is, to my knowledge, unique in the UK higher-education landscape in that it assesses very advanced mathematical content in project form (rather than by timed, written assessment). It appears to attract a wider range of backgrounds than other programmes at the masters level that might be considered comparable in content. The departments should be congratulated on the vision for and successful implementation of this programme.

- b. *Please comment on student performance and achievement across the relevant programmes or parts of programmes and with reference to academic standards and student performance of other higher education institutions of which you have experience (those examining in joint schools are particularly asked to comment on their subject in relation to the whole award).*

See above. (I had previously requested clarification on the difference between parts a. and b. of this question.)

### **B2. Rigour and conduct of the assessment process**

*Please comment on the rigour and conduct of the assessment process, including whether it ensures equity of treatment for students, and whether it has been conducted fairly and within the University's regulations and guidance.*

I am pleased to confirm that the rigour and conduct of the assessment process are in line with what I would expect of a world-leading institution such as Oxford.

The quality of the mini-projects I reviewed was very high, and clearly a great deal of care had been taken by the setters to ensure an appropriate balance of straightforward and challenging elements. The recommendation that some part of each project be open-ended was almost uniformly followed. Almost all projects were available in good time this year, and I continue to be very satisfied with this aspect of the assessment process.

Marks of the mini projects and dissertations are carefully documented. The double-blind marking process (in place of a marking scheme) is commendable and I am satisfied that the reconciliation process is applied meticulously and contributes to ensuring fair outcomes for all candidates.

Second assessors of dissertations had often prepared carefully for the dissertation vivas, resulting in meaningful questioning of candidates. In cases where the second marker was not present the viva felt less effective, but I am satisfied that overall the viva fulfils its function of assuring the integrity of the dissertation work.

### **B3. Issues**

*Are there any issues which you feel should be brought to the attention of supervising committees in the faculty/department, division or wider University?*

#### (1) Administration

- (a) The organisation of examiners' meetings this year left room for improvement. More than once a meeting was cancelled at short notice. On one occasion an exam board was called off only two hours before it was due to take place.
- (b) Attempts to investigate whether there is a divergence in standards on the programme between the mathematics and computer science component (a concern raised under (2)(a) in last year's report) faltered because the examiners were unable to obtain, despite repeated prompting, the relevant data for any of the examiners' meetings.
- (c) Several inaccuracies were detected in the marks spreadsheet at the final examiners meeting. While the examiners were able to address these issues by performing the necessary calculations manually, every effort should be made to avoid errors of this type in the future.

#### (2) Response to previous report

- (a) The response I received (on 4<sup>th</sup> May 2022, detailing the outcome of a supervisory meeting held on 25<sup>th</sup> November 2021) did not fully address the points raised in last year's report, with many comments seeming to reflect a broader discussion rather than the specific issue raised. For example, the potential deterrent effect of the possibility of holding vivas for mini-projects did not appear to have been considered at all. For the avoidance of doubt, based on my experience I see little value in running these projects through Turnitin (the main risk, in my view, being collusion, which would be impossible to detect via this method, given a minimum degree of competence on the part of the cheating students).
- (b) Follow-up on my recommendation (4) (Guidance for External Examiners) in last year's report was patchy. Even amongst local (academic and administrative) staff, there was ongoing confusion on various aspects of the examination process, with no written guidance to hand on several occasions. For example, there was a distinct lack of clarity around how mitigating circumstances should be dealt with, and on what basis the programme prizes should be awarded.

#### (3) Template instructions for mini-projects

I reiterate recommendation 2(c) from last year's report, namely that standard wording be developed for 'literature review'-style mini-projects, to make it clearer what is expected of students, and what aspect of the work marks will be awarded for. Moreover, I recommend refining the template wording for standard, problem-type projects.

### **B4. Good practice and enhancement opportunities**

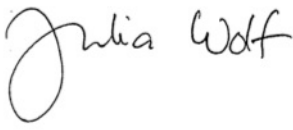
*Please comment/provide recommendations on any **good practice and innovation relating to learning, teaching and assessment**, and any **opportunities to enhance the quality of the learning opportunities** provided to students that should be noted and disseminated more widely as appropriate.*

I have nothing to add here this year.

### **B5. Any other comments**

*Please provide any other comments you may have about any aspect of the examination process. Please also use this space to address any issues specifically required by any applicable professional body. If your term of office is now concluded, please provide an overview here.*

It was a pleasure to act as an external examiner on the MFoCS in 2021-22. I should like to thank Dr Aleks Kissinger and the MFoCS administrative team for their support.

<b>Signed:</b>	
<b>Date:</b>	17/10/2022

Please ensure you have completed parts A & B, and email your completed form to: [external-examiners@admin.ox.ac.uk](mailto:external-examiners@admin.ox.ac.uk) AND copy it to the applicable divisional contact set out in the guidelines.