

EXTERNAL EXAMINER REPORT FORM 2021

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

Please complete both Parts A and B.

Part A				
<i>Please (✓) as applicable*</i>		Yes	No	N/A / Other
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?			N/A
A7.	Are you satisfied that comments in your previous report have been properly considered, and where applicable, acted upon?			N/A
* If you answer "No" to any question, you should provide further comments when you				

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 certainly comparable with those of students at the top-tier higher-education institutions of which I have first-hand experience. Some of the dissertations in particular produced impressive original results. The viva presentations I attended were almost uniformly of a very high standard. Overall, the programme has every reason to be proud of the outcomes it produces, especially in light of the breadth of topics covered and the range of backgrounds of its student intake.

- 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.

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 overwhelming majority of mini projects I reviewed were well thought-out and, as far as I was able to ascertain, clearly of an appropriate standard. The recommendation that some part of each project be open-ended was widely followed. Assessors responded promptly to comments and made changes where appropriate. Overall, I was very satisfied with the process.

The double-blind marking process is commendable and ensures fair treatment of candidates. Marks of the mini projects and dissertations (including reconciliation, where needed) were carefully documented, and the University's platform for this purpose seems both secure and robust.

Second assessors of dissertations had almost without exception prepared carefully for the dissertation vivas, resulting in meaningful questioning of candidates. I am satisfied that the viva fulfils its function of assuring the integrity of the dissertation work.

Overall, the rigour and conduct of the assessment process are in line with what I would expect of a world-leading institution such as Oxford.

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) Academic integrity of mini projects

It is not clear to me what (if any) mechanisms are in place to prevent academic misconduct on the termly mini projects. I would imagine that collusion amongst students in particular is all but impossible to detect. While it is clearly not feasible to conduct viva voce examinations for each mini project, I wonder whether a random sample of projects might be subjected to a second round of assessment (with the associated deterrent effect benefiting the full set of projects).

(2) Uniformity of standards

(a) There appeared to be a noticeable difference between the average mark awarded on a Mathematics mini project and the corresponding Computer Science average. Without wishing to call the academic judgement of individual assessors into question, I strongly recommend that the departments investigate whether this difference truly reflects a difference in student achievement across the projects set by each department, or whether it is indicative of a divergence in expectations.

(b) While, as commented above, many dissertations were of a very high standard indeed, I was surprised to see the very high proportion of distinctions awarded at the final exam board. The departments may wish to consider whether this is truly appropriate. (For comparison, Part III Mathematics in Cambridge awards 35-40% Distinctions, and has no plans to increase that proportion.)

(c) I saw a great variety of mini project 'styles', from fairly standard 'problem sets' to quite unguided 'literature reviews'. In the latter case, some projects seemed to place a considerably higher reward on the candidate's ability to search the literature than on mathematical synthesis. I would urge the departments to provide more clarity on what is being asked of candidates and what aspect of the work marks will be awarded for. Perhaps a standardised pre-amble to such literature projects could be considered.

(3) Timeline

(a) The vast majority of mini projects were made available to me in good time. However, a very small number of projects arrived late, which disrupted the process and left very little time for serious scrutiny.

(b) It seems that a large number of extensions to the dissertation deadline were granted this year, making the final exam board meeting much less 'final' than its name suggests. I assume that many of these extensions were due to the disruption caused by COVID-19, but would nevertheless recommend that the departments monitor the proportion of extensions granted going forward.

(4) Guidance for External Examiners

(a) It would have been helpful to have been given more detailed guidance on various aspects of the examination in advance, including but not limited to the following points:

- mark scheme with model solutions vs. double marking for mini projects;
- details of the moderation/reconciliation process;
- role of the external examiner in the dissertation viva.

At my home institution, we aim to provide externals with all the information pertaining to the examination as it is communicated to both students and assessors. I would recommend that this practice be adopted for the MFoCS.

(b) There was at least one occasion when I did not have access to the relevant information in sufficient time before an exam board. I understand that this was due to administrative difficulties and trust such incidents are exceptional.

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.

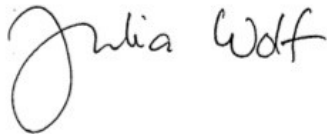
I strongly endorse the way in which the dissertation viva interacts with other assessment components in this programme. It clearly has an important role to play in assuring the integrity of the examination process, but also serves to focus students' attention on the 'bigger picture' at an important stage in their career, as well as providing them with an opportunity to add valuable skills to their skill set. The fact that the viva does not contribute to the numerical mark (beyond being necessary to pass) seems appropriate to me and rightly emphasises the importance of substance over style.

All vivas were held online this year (on Teams). I was impressed with how well the students handled this process. Whatever training was provided seemed very effective. I was also satisfied that the viva continued to fulfil its core function (even though it seemed that it was more difficult for candidates to provide detailed responses to questions in the online format).

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 2020-21. I would like to thank Prof. Panos Papazoglou and the MFoCS administrative team for their hard work, patience and support.

Signed:	
Date:	23/10/2021

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

EXTERNAL EXAMINER REPORT FORM 2021

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

Please complete both Parts A and B.

Part A					
		<i>Please (✓) as applicable*</i>	Yes	No	N/A / Other
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?		✓		
<p>* If you answer "No" to any question, you should provide further comments when you complete Part B.</p>					

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 comparing to the Russell Group in the UK and equivalent international programs. The academics have very high expectations from students, providing challenging mini-projects and dissertation topics supporting the well-balanced development of a talented cohort of students on the program.

- 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 2020/21 academic year was excellent, with a large proportion of the students being awarded of merit and distinction. The firm background in mathematics and computer science has been confirmed by mini-projects, and in-depth knowledge of the subject which has been examined during online oral presentations as part of MSc project assessment. Majority of the students are well prepared for research study at doctoral level. Several students have already made research contributions that are of publishable quality as a part of their MSc projects.

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 whole assessment process was rigorous. All students have been treated fairly and within the University's regulations and guidance. The classification requirements for grading mini-projects and the dissertation have been slightly adjusted this year to address COVID restrictions. In addition, all mitigating cases have been assessed both 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. Most of the mini projects have been clearly marked by assessors, allowing external examiners to check the consistency of marking. The oral examinations have been organised online and all students were engaged in a scientific dialogue related to the results of the dissertation, in the presence of the second reader, internal and external examiners. The only weakness of online presentations was a lack of real interaction and a possibility to use a white board or other form of similar media during the discussions. This could be easily avoided in case of standard in campus viva presentations.

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 COVID pandemic and lockdowns have significantly affected the deadlines for MSc projects and the whole process of viva presentations and marking have been stretched from the middle of

September 2021 till late of November 2021 as many students requested extensions on their MSc projects. It created some lack of synchronisation for exam boards and degree classification that could be easily avoided next year in case of reduced COVID disruption.

All presentations and exam board meetings have been arranged online as a plausible alternative in case of lockdown restrictions. Although the online board is an effective way to meet in a quick way the online facilities are still quite limited to replace full access to all exam scripts and face to face interaction.

Despite these issues, all examinations and exam boards were organised very professionally by the chair of exam board and the student office. In my opinion it would be beneficial to the students and examiners to return to the standard in campus teaching activates, exam meetings and viva presentations as soon as possible.

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 provides 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 as it can guarantee the quality of marking and an opportunity for external examiners to check the consistency of the marking scheme.

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.

I would like to highlight that my recommendations about recognising excellent and outstanding work has been taken into account by examiners. Currently many examiners successfully combine technical challenges of the mini-projects with open-ended questions that can recognize original work of students that should deserve 90+ marks, advanced level of understanding which deserve 80+ marks and a possibility to award some lower marks for only correctly completed technical parts.

The deadlines for mini-project submission should be adjusted to allow more time for external examiners to evaluate mini-projects and for academics to implement requested changes if needed.

Signed:	
Date:	24 November 2021

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