

EXTERNAL EXAMINER REPORT FORM 2020

External examiner name:	Richard Jozsa		
External examiner home institution:	University of Cambridge		
Course(s) examined:	Part C in: Mathematics (including OMMS), Mathematics and Statistics, Mathematics and Computer Science.		
Level: (please delete as appropriate)	Undergraduate		

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?		✓		
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 6 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?				✓
* If you answer "No" to any question, you should provide further comments when you complete Part B. Further comments may also be given in Part B, if desired, if you answer "Yes" or "N/A / Other".					

Part B

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?*

Academic standards in Oxford Part C Mathematics, and OMMS, and Mathematics with CS, and with Statistics, all compare well with those in Part III Mathematics in Cambridge (my home institution) both in the excellent breadth of courses available and the advanced level of material in them. More broadly they are rightly widely regarded as being amongst the very best mathematics training available in the world at this level.

- 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).*

This year because of the pandemic, the circumstances were totally unprecedented in extreme ways that had to be dealt with by the University at very short notice. Notwithstanding very major changes made in the assessment procedure, the whole process appears to the University's credit, to have been quite successful, also with very careful and sensitive consideration being given to all issues arising (I would have expected more problems than actually arose).

I was surprised that examination papers initially set in pre-covid times as closed book exams (and intended for a normal year) were used essentially unchanged as open book exams, and with students being allowed a longer time to do them as well. There were also further major changes - use of a safety net process, and reduction of number of units from 8 to 6. The overall process was very different from that adopted in my own institution. Despite the very considerable changes in the Oxford system it seems to have worked reasonably well. Some issues did arise and they were discussed at length in the final examiners' meeting (cf minutes of the meeting, item 'Feedback from external examiners on examining process'). A general emergent feature was an unusually large number of close high marks that needed to be spread and differentiated.

I will briefly recall here some of the main issues as I recall them, that might be valuable to revisit if a similar process is to be used next year too.

(i) Papers should be set as appropriate (open or closed book) examinations for the system used.

(ii) With the decrease from 8 to 6 units, and a dissertation being worth 2 units, the latter by itself formed a major contribution (one third) to the final result which then became very sensitive to dissertation marking and its consistency. As in my own institution, dissertation marks seem to be on average higher than exam paper marks. Thus it would be good to pay as careful attention as possible to accuracy, and consistency across subject areas, in dissertation marking, and this be emphasised to the markers. In some cases a student was able to be awarded a distinction from a high dissertation mark but uniformly low exam marks. This all becomes even more extreme under the Safety Net possibility of further doubling the weight of the dissertation (so it then counts for half of the final result).

(iii) Another Safety Net issue was its option (d), allowing that if a student sat no papers at all, then they could still be awarded their Part B grade as their Part C grade. (This did not occur in Maths/OMMS but occurred in Maths with CS). Correspondingly it appears possible(?) that a student could do no work whatsoever in Part C and be awarded a distinction for it.

(iv) There appears to be a need for some kind of further flexibility in rules for scaling of marks at the very top end, where a lot of very steep rescaling was applied. Current rules require 50/50 to be a fixed point (never rescaled) but 49/50 could be scaled down quite significantly in cases of dense clustering near 50. For example, in one case 10 of the 17 marks were at least 46/50

including some 49s and 50s. The steep rescaling meant that the resulting given mark was very sensitive to ultraprecise accuracy in the marking (and as such, made even more problematic by the integer restriction on initial mark values).

(v) In OMMS (if I recall correctly), if a student gets a single mark less than 50/100 then he/she is not allowed to be awarded a distinction or even a merit, irrespective of the other marks, which could possibly all be very high. The fairness of this rule could be reconsidered.

Despite such issues that arose, the whole system appeared to work quite adequately well to provide a graded class list in the unprecedented situation, especially also with the careful consideration that was given to all reported mitigating circumstances, and technical problems of students uploading of their solutions etc.

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 conducted with a high level of fairness, rigour and adherence to regulations (carefully heeding all the new rules), and with the more subjective ingredients (such as consideration of mitigating circumstances, late online submissions etc) being given careful and considerate attention in each individual case. The online-ness of exam panel meetings served the purposes very well.

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?

No further comments here, beyond the above.

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.*

No further comments here, beyond the above.

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.

Overall I'm very happy with the thorough and detailed consideration applied in the conduct of all aspects of the examination process and the level of fairness, and especially so in view of the unprecedented and very difficult situation that had to be addressed at very short notice.

Signed:	Richard Jozsa
Date:	28 September 2020

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.