



EXTERNAL EXAMINER REPORT FORM 2024

External examiner name:	Ed Brambley		
External examiner home institution:	University of Warwick		
Course(s) examined:	Maths Part B, Maths & Stats Part B		
Level: (please delete as appropriate)	Undergraduate	Postgraduate	
Year of term of office: (please delete as appropriate)	First year	Last year	Other year

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: (i) the frameworks for higher education qualifications, and (ii) 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?**			✓
* If you answer "No" to any question, you should provide further comments when you complete Part B. ** A6. and A7. If you are in your first year of term of office you should enter select 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?*

The academic standards achieved by students compare well with those at other institutions with which I have experience (Mathematics at the University of Cambridge and Mathematics at the University of Warwick). The calibre of the students is clearly high, and the difficulty of the examinations appears to be set appropriately for them.

- 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).*

In my opinion, students across both Maths and Maths & Stats achieved examination results (classifications of 1st, 2i, 2ii, 3rd, pass, and fail) that corresponded well to their examination performance, and in line with the QAA Annex D Outcome Classification Descriptions. Again in my opinion, similarly good agreement between examination results and examination performance are also achieved at the University of Cambridge and the University of Warwick. Due to the highly specialized nature of the individual courses in Mathematics, of which I have expertise in only a few, it is difficult to make a direct comparison between the difficulty of the examinations at Oxford, Cambridge, and Warwick, and therefore it is difficult to compare for example the quality of a 1st class degree across these institutions. From my own experience of students switching between Warwick and Oxford, it would appear that highly-achieving students at Oxford and at Warwick are of a comparably level, although I have no evidence on which to compare lower-achieving students between institutions.

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.

As far as I observed, the assessment process was fair, equal, and in line with the University's regulations. I would be interested in further data about how the outcomes of the assessment of students near borderlines (for example, whether the grade boundaries are drawn in exactly the right place, and/or whether the strong paper rule should be waived or not) correlates with a candidates gender. To be clear, I have no evidence of any gender bias, and this is something I would like to investigate further in future years.

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?

Of the 36 courses involved in the Mathematics and Maths & Stats Part B examinations, perhaps three were too difficult and one was too easy. This is always a risk in setting and checking exams, and neither I nor the internal review process were able to pick up these problems with any certainty before the exam was sat. In the examination meeting, however, it became clear

that a too easy paper was significantly more problematic than a too difficult one, owing to the inability to differentiate between candidates. The too easy paper appears to have had a history of being too easy in previous years, and perhaps this could be reconsidered for the future. Moreover, perhaps guidance provided to the exam setters could emphasise that, when unsure of the appropriate difficulty of a paper, erring on the side of too difficult is preferable.

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.*

There are a large number of examples of good practice already in use. These include:

- A thorough internal and external review of examination papers which is taken seriously by all.
- Thorough rescaling of raw marks to USMs aided by sensible algorithms and carefully considered by hand. These appear to have automatically picked up that this year's cohort is weaker than previous years and scaled accordingly.
- Careful and sensitive consideration of candidates near borderlines.
- Appropriate action in response to mitigating circumstances.
- The use of an excellent marks database IT system that enables this complicated process to run smoothly and efficiently.

A few minor suggestions that might be considered for the future:

- The guidance provided to assessors appears to suggest that they should write minimal information on the scripts themselves while marking. This resulted in problems when we looked at scripts, as it was unclear where a mark has been lost for a candidate who scored 49/50 --- this extra mark would have been worth 15 USM points, which could have changed their classification, but all that was written in the script was a 4 in the margin, where the maximum mark for that section was 5. I realize that the guidance is to avoid writing subjective comments on the scripts, as these are open to interpretation, but I would welcome guidance being given to assessors to encourage them to write more objective comments on scripts, for example so that where a mark has been lost can be clearly assessed.
- The process of deciding on the rescaling from raw marks to USMs is still rather opaque to the external examiners. I was happy that this year enough information was provided in the statistics in the meeting that the rescaling was demonstrably fair and correct. However, this was not obvious to the other external examiner in Maths & Stats, who did not have access to these statistics. I would therefore suggest that the Maths & Stats external examiner be given access to the Raw→USM statistics as soon as these are decided on as a matter of course.
- For the course that was too easy, there was a problem that the gradient of the Raw→USM mapping was too large, so that 1 raw mark corresponded to 15 USM marks at the top end. I wonder whether the algorithm for allocating these mappings might be tweaked to limit the maximum gradient, so that this sensitivity is prevented.
- It was unclear whether the history of maths exam and coursework, listed separately as BO1.1 and BO1.1X, should be listed separately or averaged together as a double weighted course. This mattered for whether the strong paper rule was satisfied or not, as a 60/84 split counts as only 1 paper above 70, while a 2x72 counts as 2 papers above 70. It would be good if clarity on this could be added to the course description visible to students.
- As commented by the chair, there was confusion about whether a candidates number was written correctly or not (had a 6 been misinterpreted as an 8), as there were two candidate numbers differing by only this one digit. The chair suggested, and I completely agree, that a check digit should be included in the candidate numbers so that no two

candidates have numbers differing by a single digit; for example, adding a new digit which is the sum of the other digits modulo 10 would give a check digit that would work (so, for example, 1060376 becomes 10603763, while 1060378 becomes 10603785).

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.

The staff (both administrative and academic) at the Mathematics Institute were extremely kind and helpful to me as an external examiner, and appeared to be on top of things despite the tight deadlines and high workload; thank you!

Signed:	
Date:	28 th June 2024

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.