

**The University of Leeds**  
**EXTERNAL EXAMINER'S REPORT**

ACADEMIC YEAR: 2016-17

QAT Received 08/03/18

**Part A: General Information**

**Subject area and awards being examined**

Faculty / School of:	Mathematics
Subject(s):	<i>Applied Mathematics</i>
Programme(s) / Module(s):	MSc Mathematics MSc Atmosphere-Ocean Dynamics MSc Mathematics and Computer Science
Awards (e.g. BA/BSc/MSc etc):	MSc

**Part B: Comments for the Institution on the Examination Process and Standards**

**Points of innovation and/or good practice**

*Please highlight areas of innovation or good practice within the programmes or processes you have been involved with in this box.*

There are a large number of initiatives to promote good practice in teaching and course implementation at Leeds. These are summarised in a handout distributed to lecturers.

The initiatives include evidence that different innovations are being encouraged with respect to lecturing mathematics (use of video, flipped lectures, mixed lecture/ workshop etc.), and that a significant number of staff are involved.

There is also continuous innovation in the TPG programmes in the wide variety of new research topics selected for student dissertations.

**Enhancements made from the previous year**

*Please highlight any enhancements made to the programme(s) or processes over the past year in this box.*

Please see corresponding undergraduate report.

**Matters for Urgent Attention**

*If there are any areas which you think require urgent attention before the programme is offered again please note them in this box*

None

**For Examiners in the first year of appointment**

1.	Were you provided with an External Examiner Handbook?	Y / N
2.	Were you provided with copies of previous External Examiners' reports and the School's responses to these?	Y / N
3.	Were you provided with a External Examiner Mentor?	Y / N

**For Examiners completing their term of appointment**

4.	Have you observed improvements in the programme(s) over the period of your appointment?	Y
5.	Has the school responded to comments and recommendations you have made?	Y

6.	Where recommendations have not been implemented, did the school provide clear reasons for this?	Y
7.	Have you acted as an External Examiner Mentor?	N

*Please comment on your experience of the programme(s) over the period of your appointment, remarking in particular on changes from year to year and the progressive development and enhancement of the learning and teaching provision, on standards achieved, on marking and assessment and the procedures of the School*

Overall I have been very satisfied with the standards of the degree programmes at Leeds throughout my time as external, and I believe that the current system of learning and teaching provision needs only to evolve organically to maintain standards. The exam administration has been excellent throughout, due to the professionalism and competence of the administrative staff and academics managing the process.

The standards of the level 5 Mathematics courses at Leeds, which are primarily those taken by the MSc students, have been consistently high during my time as external. Some of these courses have project components, including computing projects, which distinguish them from their level 3 counterparts, and test valuable research skills, independence and initiative which are distinct from those tested by examination. This is to be commended. As I commented in the corresponding undergraduate report, the style of the exams I looked at is quite divergent, which some rather discursive exams and others more traditional with precise questions. I don't see this as a problem in itself, as exam style has its strengths and weaknesses, but the department should take care to ensure that students are not put off studying certain topics because of an unfamiliar style of examination.

The MSc projects I have seen (for MSc Mathematics, MSc Atmosphere-Ocean dynamics, MSc Maths and Comp. Sci.) included some of a very high standard, both of exposition and of scientific / mathematical content. These projects are an excellent preparation for PhD study and I know of students who have subsequently gone on to PhD study in a range of institutions. The projects have been marked fairly and robustly. I have made some minor comments in previous reports about moderating project marks between different examiners, and these were addressed to my satisfaction.

## Standards

8.	Is the overall programme structure coherent and appropriate for the level of study?	Y
9.	Does the programme structure allow the programme aims and intended learning outcomes to be met?	Y
10.	Are the programme aims and intended learning outcomes commensurate with the level of award?	Y
11.	Did the Aims and ILOs meet the expectations of the national subject benchmark (where relevant)?	Y
12.	Is the programme(s) comparable with similar programmes at other institutions?	Y

*Please use this box to explain your overall impression of the programme structure, design, aims and intended learning outcomes.*

The assessment is divided between examination (2/3) and project (1/3), which seems to me to be an appropriate mix for a taught MSc level mathematics course. The examination levels and student exam performance and dissertations indicate that the teaching and learning methods are of good quality.

13.	Is the influence of research on the curriculum and learning and teaching clear?	Y
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Almost all of the Master's level courses taught at Leeds are influenced to a great extent by staff research interests (as is natural). These courses constitute good preparation for students preparing for independent study at PhD level.

14.	Does the programme form part of an Integrated PhD?	Y / N
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*Please comment on the appropriateness of the programme as training for a PhD:*

The programme is excellent training for a PhD as the projects give students the opportunity to attempt original research at the cutting edge of applied mathematics

15.	Does the programme include clinical practice components?	N
<i>Please comment on the learning and assessment of practice components of the curriculum here:</i>		
16.	Is the programme accredited by a Professional or Statutory Regulatory Body (PSRB)?	N
<i>Please comment on the value of, and the programme's ability to meet, PSRB requirements here:</i>		

### Assessment and Feedback

17.	Does the programme design clearly align intended learning outcomes with assessment?	Y
Learning outcomes were appropriate to Master's level for all Masters-coded modules I was asked to look at, and standards are appropriate for a UK university MSc mathematics programme.		
18.	Is the design and structure of the assessment methods appropriate to the level of award?	Y
19.	Were students given adequate opportunity to demonstrate their achievement of the programme aims and intended learning outcomes?	Y
<i>Please comment on the academic standards demonstrated by the students and, where possible, their performance in relation to students on comparable courses; the strengths and weaknesses of the students as a cohort:</i>		
<p>The standard of those modules I looked at, I found to be comparable to those at other UK institutions. The MSc project topics all allowed the possibility of engaging with and understanding research-level mathematics and the possibility of the student conducting some original research.</p> <p>The students cohort is too small to make meaningful generalisations about their strengths and weaknesses.</p>		
<i>Please use this box to provide any additional comments you would like to make in relation to assessment and feedback:</i>		
No further comments		

### The Progression and Awards Process

20.	Were you provided with guidance relating to the External Examiner's role, powers and responsibilities in the examination process?	Y
21.	Was the progression and award guidance provided sufficient for you to act effectively as an External Examiner?	Y
22.	Did you receive appropriate programme documentation for your area(s) of responsibility?	Y
23.	Did you receive appropriate module documentation for your area(s) of responsibility?	Y
24.	Did you receive full details of marking criteria applicable to your area(s) of responsibility?	Y
25.	Were you provided with all draft examination papers/assessments?	Y
26.	Was the nature and level of the assessment questions appropriate?	Y
27.	Were suitable arrangements made to consider your comments on assessment questions?	Y
28.	Was sufficient assessed work made available to enable you to have confidence in your evaluation of the standard of student work?	Y

29.	Were the examination scripts clearly marked/annotated?	Y
30.	Was the choice of subjects for final year projects and/or dissertations appropriate?	Y
31.	Was the method and standard of assessment appropriate for the final year projects and/or dissertations?	Y
32.	Were the administrative arrangements satisfactory for the whole process, including the operation of the Progression and Awards Board?	Y
33.	Were you able to attend the Progression and Awards Board meeting?	N
34.	Were you satisfied with the recommendations of the Progression and Awards Board?	Y
35.	Were you satisfied with the way decisions from the School Special Circumstances meeting were communicated to the Progression and Awards Board?	Y

*Please use this box to provide any additional comments you would like to make on the questions above:*

One comment on the marking of projects. Where examiners which to give a high mark (e.g. I saw one project graded 89%), there should always be justification given as to why the project is outstanding (e.g. original research completed, difficulty of research-level concepts understood etc.).

#### Other comments

**Please use this box if you wish to make any further comments not covered elsewhere on the form**

None