

The University of Leeds

EXTERNAL EXAMINER'S REPORT

ACADEMIC YEAR: 2012– 2013

Part A: General Information

Subject area and awards being examined

Faculty / School of:

Mathematics

Subject(s):

Applied Mathematics

Programme(s) / Module(s):

BS-MATH	BSc Mathematics
BS-MATH4	BSc Mathematics (Ind)
MMBS-MATH	MMath, BSc Mathematics
MMBS-MATH9	MMath, BSc Mathematics (Int)
MMBS-STAT	MMath, BSc Statistics
BS-MATH-ST	BSc Mathematical Studies
BS-MATH&STAT	BSc Mathematics & Statistics
BA-GEOG&MATH	BA Geography & Mathematics
BS-GEOG&MATH	BSc Geography & Mathematics
BS-BLGY&MATH	BSc Biology & Mathematics
BS-BLGY&MTH4	BSc Biology & Mathematics (Ind)
BS-MATH&MUSC	BSc Mathematics & Music
BS-MNGT&MATH	BSc Management & Mathematics
BS-MNGT&MTH4	BSc Management & Mathematics (Ind)
BS-MNGT&MTH9	BSc Management & Mathematics (Int)
BS-ECON&MATH	BSc Economics & Mathematics
BS-ECON&MTH4	BSc Economics & Mathematics (Ind)
BS-ECON&MTH9	BSc Economics & Mathematics (Int)
BS-ECON&STAT	BSc Economics & Statistics
BS-ECON&STA4	BSc Economics & Statistics (Ind)
BS-ACMATH	BSc Actuarial Mathematics
BS-MATH/FIN	BSc Mathematics with Finance
BS-MATH/FIN4	BSc Mathematics with Finance (Ind)
BS-MATH/FIN9	BSc Mathematics with Finance (Int)
GDP-FIN&AC	Graduate Diploma Financial & Actuarial Mathematics
GDP-MATH	Graduate Diploma Mathematics

Awards (e.g. BA/BSc/MSc etc):

BA, BSc, MMath, BSc and Graduate Diploma

Completed report

The completed report should be attached to an e-mail and sent as soon as possible, and no later than six weeks after the relevant meeting of the Board of Examiners, to exexadmin@leeds.ac.uk.

Alternatively you can post your report to: **Head of Academic Quality and Standards**
Academic Quality and Standards Team
Room 12:81, EC Stoner Building
The University of Leeds, Leeds LS2 9JT

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

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

N/A

Only applicable in first year of appointment

Were you provided with copies of previous relevant External Examiners' reports and the response of the School to these?

N/A

For Examiners completing their term of appointment

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

N/A

Standards

1. Please indicate the extent to which the programme Aims and Intended Learning Outcomes (ILOs) were commensurate with the level of the award

- *The appropriateness of the Intended Learning Outcomes for the programme(s)/modules and of the structure and content of the programme(s);*
- *The extent to which standards are appropriate for the award or award element under consideration.*

The aims and ILOs were commensurate with the level of award and the standards appropriate.

2. Did the Aims and ILOs meet the expectations of the national subject benchmark (where relevant)?

- *The comparability of the programme(s) with similar programme(s) at other institutions and against national benchmarks and the Framework for Higher Education Qualifications.*

Yes.

3. Please comment on the assessment methods and the appropriateness of these to the ILOs

- *The design and structure of the assessment methods, and the arrangements for the marking of modules and the classification of awards;*
- *The quality of teaching, learning and assessment methods that may be indicated by student performance.*

The assessment methods are appropriate - there was a suitable mixture of assessment methods, though the majority was by written exam which I think is appropriate for these programmes. The quality of teaching seems to be very good – plenty of interesting applications examples are used, and students are exposed to a variety of approaches.

4. Were students given adequate opportunity to demonstrate their achievement of the Aims and ILOs?

- *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.*

Yes, there are ample opportunities for students to demonstrate their achievement of the Aims and ILOs. There is a wide range of abilities shown by the students, but I think the courses are designed to challenge each level appropriately.

5. For Examiners responsible for programmes that include clinical practice components, please comment on the learning and assessment of practice components of the curriculum

N/A

6. Please comment on the nature and effectiveness of enhancements to the programme(s) and modules since the previous year

It would be particularly helpful if you could also identify areas of good practice which are worthy of wider dissemination.

The anonymous exam board is bedding progressed well this year – although it does not lead to exam boards that are quite as exciting as they used to be, I think this is altogether a good thing.

7. Please comment on the influence of research on the curriculum and learning and teaching

This may include examples of curriculum design informed by current research in the subject; practice informed by research; students undertaking research.

There are plenty of examples of the influence of research in applied mathematics influencing the curriculum, especially in final year courses and in the project work.

For Examiners involved in mentoring arrangements

8. If you have acted as a mentor to a new External Examiner or have received mentor support please comment here on the arrangements

N/A

9. The University and its Schools provide guidance for External Examiners as to their roles, powers and responsibilities. Please indicate whether this material was sufficient for you to act effectively as an External Examiner.

- Whether External Examiners have sufficient access to the material needed to make the required judgements and whether they are encouraged to request additional information.

Yes, this was fine.

10. Did you receive appropriate documentation relating to the programmes and/or parts of programmes for which you have responsibility, e.g. programme specifications or module handbooks, marking criteria?

- The coherence of the policies and procedures relating to External Examiners and whether they match the explicit roles they are asked to perform.

Yes, the process was open, transparent and well documented. The documentation was very well prepared.

11. Were you provided with all draft examination papers/assessments? Was the nature and level of the questions appropriate? If not, were suitable arrangements made to consider your comments?

Yes. I think there could be some increase in efficiency in terms of the setting of level 3 and 5 papers for related courses and I would be happy to move to a system where for example the level 3 paper is a subset of questions for the level 5 "advanced" module.

12. Was sufficient assessed / examined work made available to enable you to have confidence in your evaluation of the standard of student work? Were the scripts clearly marked/annotated?

Yes, plenty of examined work was available, and I think an appropriate level of assessed work. Most of the work was clearly annotated when marked, though for a few courses this could be improved by ensuring that markers (a) do not use blue or black pen/pencil for marking and (b) clearly give marks for subsections as fractions of that part. In addition, I think the checking could be made more transparent by, for example, putting an initial on the front cover of all checked papers in a different colour to show it has been checked and by whom – it is possible that student complaints could arise because of inconsistencies in the marking not being checked properly.

13. Was the choice of subjects for dissertations appropriate? Was the method and standard of assessment appropriate?

Yes.

14. Were the administrative arrangements satisfactory for the whole process, including the operation of the Board of Examiners? Were you able to attend the meeting? Were you satisfied with the recommendations of the Board?

15. Were appropriate procedures in place to give due consideration to mitigating circumstances and medical evidence?

Yes; although there could be possibilities to streamline the special circumstances considerations a bit from the current system, it functions well and I think is likely to be better than a purely formulaic system.

Other comments

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

I think it might be good for your board of studies to carefully consider how to handle the case of an MMath student whose performance drops in the final year. If I understand, a student may withdraw prior to exams if they feel their 3rd year degree classification will be better than their 4 year classification. The danger is that a student who feels they are not doing well but in fact is progressing well may unnecessarily withdraw before exams. Maybe a better solution would be for students to have a possibility to ask for a "downgrade" their degrees from MMath to BSc if the latter gives them a higher class, but only after they have full knowledge of the results.

**University of Leeds
School of Mathematics**

Response to the External Examiner's Report on UG programmes for 2012/13

We begin by thanking <> for <> thorough work throughout the entire academic year and for <> valuable contribution to the Board of Examiners meeting in June.

We are pleased by <> favourable comments on our programmes and assessment, and by <> positive remarks on the range of research-influenced modules and projects in applied mathematics.

We welcome <> favourable remarks about the degree classification being done anonymously, and note <> overall positive comments on the School's approach to dealing with mitigating circumstances.

<> suggested that our policy on exam papers for co-taught level 3/5M modules could be adjusted by requiring that a level 5 paper has only one additional compulsory question compared to level 3. We note that the School's current policy allows same questions or parts of questions to be used for both level 3 and level 5 exams, with the requirement that level 5 students should not be able to achieve a 1st class grade by answering level 3 questions only. The School Taught Student Education Committee has discussed <> suggestion, but was in favour of keeping the current policy, feeling that it better differentiates the assessment between different levels and so is academically justifiable.

<> commented on the marking/annotation of the exam scripts and suggested some improvements. We will remind the examiners to use bright colour for marking that is distinctly different to the colour used by each specific student and to indicate marks for parts of a question as fractions. The School's current policy requires internal assessors to check that all the marks have been correctly added up and transferred; this is then confirmed by assessors on the form submitted together with the marks. We feel that in such circumstances asking the assessors to indicate this additionally on each script is unnecessary.

<> suggested that MMATH students should have an option to graduate with BSc degree if preferred by them. We note that the University rules currently do not allow that unless the student withdraws from the MMATH programme.

<>
Head of School of Mathematics
November 2013

The University of Leeds

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Matters for Urgent Attention

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Were you provided with copies of previous relevant External Examiners' reports and the response of the School to these?

N/A

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For Examiners completing their term of appointment

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

N/A

Standards

1. Please indicate the extent to which the programme Aims and Intended Learning Outcomes (ILOs) were commensurate with the level of the award

- *The appropriateness of the Intended Learning Outcomes for the programme(s)/modules and of the structure and content of the programme(s);*
- *The extent to which standards are appropriate for the award or award element under consideration.*

Structure, content and learning outcomes are all appropriate. Standards are in keeping with those of peer institutions.

2. Did the Aims and ILOs meet the expectations of the national subject benchmark (where relevant)?

- *The comparability of the programme(s) with similar programme(s) at other institutions and against national benchmarks and the Framework for Higher Education Qualifications.*

Yes

3. Please comment on the assessment methods and the appropriateness of these to the ILOs

- *The design and structure of the assessment methods, and the arrangements for the marking of modules and the classification of awards;*
- *The quality of teaching, learning and assessment methods that may be indicated by student performance.*

Assessment and marking were good.

4. Were students given adequate opportunity to demonstrate their achievement of the Aims and ILOs?

- *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.*

Students had ample opportunity to demonstrate their achievements.
Overall, students were quite strong.

5. For Examiners responsible for programmes that include clinical practice components, please comment on the learning and assessment of practice components of the curriculum

N/A

6. Please comment on the nature and effectiveness of enhancements to the programme(s) and modules since the previous year

It would be particularly helpful if you could also identify areas of good practice which are worthy of wider dissemination.

There were no substantial changes.

7. Please comment on the influence of research on the curriculum and learning and teaching

This may include examples of curriculum design informed by current research in the subject; practice informed by research; students undertaking research.

There is a gulf between research in mathematics and undergraduate material, so I would not expect more than a passing mention of the broadest connections to related research. The course material is up to date, which is all that I would wish.

For Examiners involved in mentoring arrangements

8. If you have acted as a mentor to a new External Examiner or have received mentor support please comment here on the arrangements

N/A

The Examination/Assessment Process

9. The University and its Schools provide guidance for External Examiners as to their roles, powers and responsibilities. Please indicate whether this material was sufficient for you to act effectively as an External Examiner.

- *Whether External Examiners have sufficient access to the material needed to make the required judgements and whether they are encouraged to request additional information.*

This was fine.

10. Did you receive appropriate documentation relating to the programmes and/or parts of programmes for which you have responsibility, e.g. programme specifications or module handbooks, marking criteria?

- *The coherence of the policies and procedures relating to External Examiners and whether they match the explicit roles they are asked to perform.*

Documentation was more than adequate.

11. Were you provided with all draft examination papers/assessments? Was the nature and level of the questions appropriate? If not, were suitable arrangements made to consider your comments?

I was provided with draft papers.

I have a comment on the papers for level 3/5 course units. In these pairings the level 5 version has some additional, more challenging material and the level 5 examination paper has a compulsory question on this material. I believe this approach is successful in raising the attainment required for the level 5 course unit --- and that is all that is needed. The current practice of having small differences in other questions between the level 3 and level 5 versions achieves very little and could just as well be dropped.

12. Was sufficient assessed / examined work made available to enable you to have confidence in your evaluation of the standard of student work? Were the scripts clearly marked/annotated?

Yes

13. Was the choice of subjects for dissertations appropriate? Was the method and standard of assessment appropriate?

Yes

14. Were the administrative arrangements satisfactory for the whole process, including the operation of the Board of Examiners? Were you able to attend the meeting? Were you satisfied with the recommendations of the Board?

Yes

15. Were appropriate procedures in place to give due consideration to mitigating circumstances and medical evidence?

Procedures were in place and these were followed.

Considerable discretion was left to the Board of Examiners and External Examiners were asked for advice on how to respond to individual mitigating circumstances. It would be good for the School to clarify its policy on how to deal with mitigating circumstances. I would suggest making a clear distinction between (a) short term issues that affect assessment and (b) events that occur away from assessment periods or long term conditions that affect students throughout their studies. There are simple options for dealing with case (a): basing a decision on unaffected assessments, or allowing a re-sit as if for the first time. Events or conditions of type (b) can be difficult to distinguish from the ups and downs of ordinary life; the fact that an injury or personal situation takes time to deal with may appear significant, but then another student may have to work part-time in order to cope financially and I would not expect this to lead to application of a lower academic hurdle. I would propose that mitigation be considered only in cases of type (a).

Other comments

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

It is important for an external examiner (i) to see a full set of draft papers together and (ii) to know well in advance when draft papers will be supplied. Thus, the School should set realistic deadlines to internal examiners and enforce these unambiguously.

**University of Leeds
School of Mathematics**

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We are pleased by <> favourable comments on our overall standards and level of student achievement.

<> suggested that our policy on exam papers for co-taught level 3/5M modules could be adjusted by requiring that a level 5 paper has only one additional compulsory question compared to level 3. We note that the School's current policy allows same questions or parts of questions to be used for both level 3 and level 5 exams, with the requirement that level 5 students should not be able to achieve a 1st class grade by answering level 3 questions only. The School Taught Student Education Committee has discussed <> suggestion, but was in favour of keeping the current policy, feeling that it better differentiates the assessment between different levels and so is academically justifiable.

<> commented on the School's approach to dealing with mitigating circumstances. <> suggests that the School should only take into account circumstances that affected assessment. The School Taught Student Education Committee feels nevertheless that using mitigation can be justified in situations where the student learning has been severely affected; we note that this agrees with the approach taken by other schools and by the University Office of Academic Appeals and Regulations.

In <> additional remarks, <> stresses the importance for the School to have a realistic and strictly-adhered-to timetable for the submission of exam papers. We are currently introducing new arrangements within the School which we hope will improve the situation.

<>
Head of School of Mathematics
November 2013