

The University of Leeds

EXTERNAL EXAMINER'S REPORT

ACADEMIC YEAR: 2013– 2014

Part A: General Information

Subject area and awards being examined

Faculty / School of:	School of Mathematics																																																				
Subject(s):	<i>Applied Mathematics</i>																																																				
Programme(s) / Module(s):	<table border="0"> <tr><td>BS-MATH</td><td>BSc Mathematics</td></tr> <tr><td>BS-MATH4</td><td>BSc Mathematics (Ind)</td></tr> <tr><td>BS-MATHS9</td><td>BSc Mathematics (Int)</td></tr> <tr><td>MMBS-MATH</td><td>MMath, BSc Mathematics</td></tr> <tr><td>MMBS-MATH9</td><td>MMath, BSc Mathematics (Int)</td></tr> <tr><td>BS-MATH-ST</td><td>BSc Mathematical Studies</td></tr> <tr><td>BS-MATH&STAT</td><td>BSc Mathematics & Statistics</td></tr> <tr><td>BS-MATH&STA4</td><td>BSc Mathematics & Statistics (Ind)</td></tr> <tr><td>BS-GEOG&MATH</td><td>BSc Geography & Mathematics</td></tr> <tr><td>BS-GEOG&MTH4</td><td>BSc Geography & Mathematics (Ind)</td></tr> <tr><td>BS-BLGY&MATH</td><td>BSc Biology & Mathematics</td></tr> <tr><td>BS-BLGY&MTH4</td><td>BSc Biology & Mathematics (Ind)</td></tr> <tr><td>BS-MATH&MUSC</td><td>BSc Mathematics & Music</td></tr> <tr><td>BS-MATH&MUS4</td><td>BSc Mathematics & Music (Ind)</td></tr> <tr><td>BS-MNGT&MATH</td><td>BSc Management & Mathematics</td></tr> <tr><td>BS-MNGT&MTH4</td><td>BSc Management & Mathematics (Ind)</td></tr> <tr><td>BS-ECON&MATH</td><td>BSc Economics & Mathematics</td></tr> <tr><td>BS-ECON&MTH4</td><td>BSc Economics & Mathematics (Ind)</td></tr> <tr><td>BS-ECON&MTH9</td><td>BSc Economics & Mathematics (Int)</td></tr> <tr><td>BS-ECON&STAT</td><td>BSc Economics & Statistics</td></tr> <tr><td>BS-ACMATH</td><td>BSc Actuarial Mathematics</td></tr> <tr><td>BS-ACMATH4</td><td>BSc Actuarial Mathematics (Ind)</td></tr> <tr><td>BS-MATH/FIN</td><td>BSc Mathematics with Finance</td></tr> <tr><td>BS-MATH/FIN9</td><td>BSc Mathematics with Finance (Int)</td></tr> <tr><td>GDP-FIN&AC</td><td>Graduate Diploma Financial & Actuarial Mathematics</td></tr> <tr><td>GDP-MATH</td><td>Graduate Diploma Mathematics</td></tr> </table>	BS-MATH	BSc Mathematics	BS-MATH4	BSc Mathematics (Ind)	BS-MATHS9	BSc Mathematics (Int)	MMBS-MATH	MMath, BSc Mathematics	MMBS-MATH9	MMath, BSc Mathematics (Int)	BS-MATH-ST	BSc Mathematical Studies	BS-MATH&STAT	BSc Mathematics & Statistics	BS-MATH&STA4	BSc Mathematics & Statistics (Ind)	BS-GEOG&MATH	BSc Geography & Mathematics	BS-GEOG&MTH4	BSc Geography & Mathematics (Ind)	BS-BLGY&MATH	BSc Biology & Mathematics	BS-BLGY&MTH4	BSc Biology & Mathematics (Ind)	BS-MATH&MUSC	BSc Mathematics & Music	BS-MATH&MUS4	BSc Mathematics & Music (Ind)	BS-MNGT&MATH	BSc Management & Mathematics	BS-MNGT&MTH4	BSc Management & Mathematics (Ind)	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-ACMATH	BSc Actuarial Mathematics	BS-ACMATH4	BSc Actuarial Mathematics (Ind)	BS-MATH/FIN	BSc Mathematics with Finance	BS-MATH/FIN9	BSc Mathematics with Finance (Int)	GDP-FIN&AC	Graduate Diploma Financial & Actuarial Mathematics	GDP-MATH	Graduate Diploma Mathematics
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Name and home Institution / affiliation of Examiner

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 Quality Assurance**
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

The programmes continue to offer a good range of interesting options at an appropriate level. The teaching, assessment and marking procedures are well-justified in addition to being well overseen and applied. I felt confident that the school was seriously considering my input as an external examiner and I thank them for an interesting time during which I have been involved examining these programmes. I am particular happy that the implementation of anonymous classification has been done well and is leading to efficient and justifiable classification of student degrees.

Finally, I note that there seems to be a requirement on a lot of signatures from the external examiners. For minor amendments that affect only one or two students, it might be appropriate to accept email confirmation from the external rather than requiring a signed document.

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 are commensurate to the level of award. The standards are appropriate to the awards under consideration.

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 a justifiable mix of examination, project work and other assessment methods. They give me the confidence that the assessment outcomes do reflect the achievement of the students.

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 to do this and the assessment are I think comparable to similar courses.

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.

I am happy that the introduction of anonymous exam boards is working well and results in a more efficient and demonstrably unbiased classification process.

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.

Research is clearly influencing the range of modules and their content, especially at the higher levels, and the students have an opportunity to specialise in one area of mathematics as their degree progresses.

8. Where the programme forms part of an Integrated PhD, please comment on the appropriateness of the programme as training for a PhD

N/A

For Examiners involved in mentoring arrangements

9. 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

10. 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.

11. 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, and these are appropriate.

12. 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.

13. 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, though again I recommend the department could implement a more documented system of exam mark checking.

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

Yes – and the documentation for the marking of these is improving.

15. 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, this was fine.

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

Yes.

Other comments

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

**University of Leeds
School of Mathematics**

Response to the External Examiner's Report on UG programmes for 2013/14

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

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

We welcome [redacted] favourable remarks about the degree classification being done anonymously.

[redacted] recommended having a more documented system of exam mark checking. The School is currently reviewing its mark-checking procedures, and [redacted] recommendation will be taken into consideration.

Yours sincerely,

Head of the School of Mathematics
December 2014

The University of Leeds

EXTERNAL EXAMINER'S REPORT

ACADEMIC YEAR: 2013– 2014

Part A: General Information

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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

None

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.*

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 mostly good. Student performances indicated that teaching has been effective.

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 were given plenty of opportunity to demonstrate their achievements and overall, they performed well. Examinations do not always test harder aspects of the material, and my impression is that examiners are not always confident that students have a really deep understanding of the material or very strong technical skills.

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.

8. **Where the programme forms part of an Integrated PhD, please comment on the appropriateness of the programme as training for a PhD**

N/A

For Examiners involved in mentoring arrangements

9. 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

10. 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.

11. 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.

12. 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 examination papers and solutions. The nature and level of the questions was fine in most cases. When I made comments, these were considered and acted upon.

13. 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.

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

Yes.

15. 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.

16. 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. The advice that I offered was based on the guidelines I was given, in particular

“Special circumstances are only taken into account if they indicate that the student’s performance in examinations (and assessed coursework) does not accurately reflect the student’s actual achievement. A degree class is NOT meant to be an assessment of the level of achievement of which the student might be capable in better circumstances.”

I am not sure that members of the Board of Examiners would have felt bound by this guidance without input from the External Examiners.

Other comments

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

The quality of internal checking for Semester 1 exam papers was poor. The papers for Semester 2 were better. This improvement needs to be maintained.

**University of Leeds
School of Mathematics**

Response to the External Examiner's Report on UG programmes for 2013/14

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 overall standards of teaching and assessment.

_____ commented on the importance of internal checking of exam papers. We are pleased by _____ comments about these procedures having improved in Semester 2. The School will continue promoting best practices in that area.

_____ remarked that some of the exam papers seemed to avoid testing harder aspects of the material. Our guidance to examiners recommends including some easier parts of questions accessible to weaker students and at the same time making the exam challenging even to the best students by including more difficult topics and questions. We will remind the exam-setters about the importance of getting that balance right.

Yours sincerely,

Head of the School of Mathematics
December 2014