

The University of Leeds
EXTERNAL EXAMINER'S REPORT
ACADEMIC YEAR: 2014– 2015

Part A: General Information**Subject area and awards being examined**

<i>Faculty / School of:</i>	Mathematics and Physical Sciences																										
<i>Subject(s):</i>	<i>Applied Mathematics</i>																										
<i>Programme(s) / Module(s):</i>	<table border="0"> <tr><td>BS-MATH</td><td>BSc Mathematics</td></tr> <tr><td>MMBS-MATH</td><td>MMath, BSc Mathematics</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>MMBS-MA&ST</td><td>MMath, BSc Mathematics & Statistics</td></tr> <tr><td>BS-GEOG&MATH</td><td>BSc Geography & Mathematics</td></tr> <tr><td>BS-BLGY&MATH</td><td>BSc Biology & Mathematics</td></tr> <tr><td>BS-MATH&MUSC</td><td>BSc Mathematics & Music</td></tr> <tr><td>BS-MNGT&MATH</td><td>BSc Management & Mathematics</td></tr> <tr><td>BS-ECON&MATH</td><td>BSc Economics & Mathematics</td></tr> <tr><td>BS-ACMATH</td><td>BSc Actuarial Mathematics</td></tr> <tr><td>BS-MATH/FIN</td><td>BSc Mathematics with Finance</td></tr> <tr><td>GDP-FIN&AC</td><td>Graduate Diploma Financial & Actuarial Mathematics</td></tr> </table> <p><i>Plus all International and Industrial variants of these programmes</i></p>	BS-MATH	BSc Mathematics	MMBS-MATH	MMath, BSc Mathematics	BS-MATH-ST	BSc Mathematical Studies	BS-MATH&STAT	BSc Mathematics & Statistics	MMBS-MA&ST	MMath, BSc Mathematics & Statistics	BS-GEOG&MATH	BSc Geography & Mathematics	BS-BLGY&MATH	BSc Biology & Mathematics	BS-MATH&MUSC	BSc Mathematics & Music	BS-MNGT&MATH	BSc Management & Mathematics	BS-ECON&MATH	BSc Economics & Mathematics	BS-ACMATH	BSc Actuarial Mathematics	BS-MATH/FIN	BSc Mathematics with Finance	GDP-FIN&AC	Graduate Diploma Financial & Actuarial Mathematics
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<i>Awards (e.g. BA/BSc/MSc etc):</i>	BSc, MMath, BSc and Graduate Diploma																										

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

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?

Yes.

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.*

Learning outcomes were appropriate to the level of award for all modules I was asked to look at, and standards are appropriate for a UK university mathematics programme.

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. The standard of those modules I looked at, I found to be comparable to those at other UK institutions.

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 is mainly by examination, as is appropriate for university mathematics, with a small project component. The examination levels and student performance indicate that the teaching and learning methods are of good quality.

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. All examined modules contained some unseen material enabling students to demonstrate a genuine understanding of the ILOs.

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.

This is my first year at Leeds.

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.

It is clear that the research interests of staff strongly influence course structure at the higher levels, and there are a number of courses, particularly at level 5, that prepare students well for independent study at a higher level (e.g. PhD level).

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.

Yes, sufficient material was promptly provided.

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.

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. Such comments that I made on examinations were responded to / taken into account by the examiners in a prompt fashion.

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. Re: method of assessment, my feeling was that the marking of the projects on the MATH3000 module should have had more weighting placed on the mathematical content and difficulty of the project. However this is a moot point as this module is to be discontinued.

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. The examinations process was administered very efficiently by the examinations officer. The meeting, which I attended, was chaired with great efficiency and I was satisfied with the recommendations of the board.

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

Yes. Detailed evidence of mitigating circumstances was made available to the external examiners.

Other comments

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

Part of my duties naturally involved looking at marked scripts. The examiners should be reminded that it is helpful for externals if every written page of the exam is marked with red ink to indicate that it has been seen. A good practice used elsewhere is that second examiners (checkers) also mark each page in green ink, thereby minimizing the possibility of errors. Consideration could be given to adopting this practice.



**University of Leeds
School of Mathematics**

Response to the External Examiner's Report on UG programmes for 2014/15

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 teaching and learning methods and good levels of student achievement. We welcome _____ positive remarks on a number of research-influenced modules in applied mathematics. _____ remarked on the Board of Examiners meeting in June as being organized and chaired with great efficiency, and we are pleased about these remarks.

_____ commented on our marking procedures and made some recommendations on how these can be improved. The School Taught Student Education Committee has discussed _____ suggestions. We will remind the examiners of the importance that each page of a marked script had clear indications of having been marked. We agree that the mark checkers should pay special attention to any unmarked pages, so we will bring this additionally to their attention. The School Taught Student Education Committee also agreed that the ultimate responsibility for the scripts lies with the Lecturer, who should check that each script has been initialled by the checker. The marksheet will be adjusted to include a tick list of activities which the Lecturer needs to complete. The Committee felt that marking each page additionally by a mark checker, as suggested by _____ would have little effect on the possibility of errors.

Head of the School of Mathematics
November 2015

The University of Leeds

EXTERNAL EXAMINER'S REPORT

ACADEMIC YEAR: 2014– 2015

Part A: General Information

Subject area and awards being examined

Faculty / School of:

Mathematics and Physical Sciences

Subject(s):

Statistics

Programme(s) / Module(s):

BS-MATH	BSc Mathematics
MMBS-MATH	MMath, BSc Mathematics
BS-MATH-ST	BSc Mathematical Studies
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Plus all International and Industrial variants of these programmes

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

BSc, MMath, BSc and Graduate Diploma

Name and home Institution / affiliation of Examiner

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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

The programmes are of good quality. Students can select from a range of course units in Statistics and learn both theory and application. At the end of their degree courses successful students will have achieved an appropriate level of understanding and be prepared to start a career or move on to MSc or PhD level study.

The content has not changed significantly over my period as external examiner, but this is not a problem.

For some course units I have a concern that there is only just enough time to deliver the content of a course unit and students

have insufficient time to work on the material and understand it in depth. In such cases I would be inclined to reduce the volume of material and spend more time on helping students digest what is there.

The assessment procedures in the Department are very effective. Examiners meetings were extremely well organised, borderline cases were discussed carefully and sensible decisions were reached.

At times, there have been delays in preparation of some exam papers and the quality of preparation and checking has fallen below what I would expect. Despite improvements in this area, some work is still needed.

The role of the external examiner involves giving feedback to be considered and possibly acted on by teaching staff. This is not always achieved in a bureaucratic process of written report and formal response. This year, I asked to have a meeting with Statistics Department staff. I met about 10 staff and raised a number of issues. We spent an hour discussing these. I thought this was a successful meeting and a more productive use of my time than scrutinising even more exam scripts.

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. 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 it appears that examiners may not be 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 major changes since last year.

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

I acted as mentor to a new external examiner. I made contact early in the year in case he had questions. When we were in Leeds prior to the final examinations board, I explained how the board would proceed and how the external examiners were expected to contribute.

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.

Plenty of information was provided: if anything, there was too much. I used the collection of information as a reference rather than read everything in detail.

With more formulaic approaches to defining degree classes in place in many institutions, the role of external examiner is changing. Defining what you hope externals to contribute and summarising this in a one page summary would be a useful exercise.

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

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.

The Board of Examiners exercised discretion appropriately, with advice from the External Examiners.

Other comments

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

Nothing to add.



**University of Leeds
School of Mathematics**

Response to the External Examiner's Report on UG programmes for 2014/15

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.

[redacted] describes his meeting with Statistics Department staff during [redacted] visit in June, at which various aspects of examination and assessment were discussed. We understand that the meeting was very useful and are grateful to [redacted] for devoting part of [redacted] time to that.

We are pleased by [redacted] favourable comments on our teaching standards and assessment procedures. We are particularly pleased about [redacted] remarks on the effectiveness and good organisation of our Board of Examiners meeting.

As part of [redacted] overall remarks on being the External Examiner in Leeds, [redacted] raised a concern about some modules perhaps having too much material, leaving insufficient time for the students to work on it and to fully understand the material. We note that the School Taught Student Education Committee and, indeed, all teaching staff normally address such issues as part of our regular module and programme review process. We will continue monitoring our modules and programmes to ensure that there is a strong correlation between module content and learning outcomes.

Head of School of Mathematics
November 2015