

**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:	Earth and Environment
Subject(s):	<i>Geophysics</i>
Programme(s) / Module(s):	Geophysical Sciences
Awards (e.g. BA/BSc/MSc etc):	BSc, MGeophys

**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](mailto: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?*

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*

Leeds continues to offer an excellent undergraduate course in geophysics. The course is demanding and requires the development of numerical skills and a quantitative understanding. I am very pleased with the instigation of prizes for geophysics this year, I flagged the lack of prizes in the geophysics programme as unfair early on in my tenure, given that prizes were awarded on the other courses. So it was with great pleasure that I had the opportunity to recommend the recipients for the first two geophysics awards this year. Another positive development was the inclusion of some fieldwork projects this year as a way to motivate some students that may not be so inspired by desk/computer based projects.

A disappointment has been the lack of uptake by graduates to meet with myself during my visit to Leeds. Over the years this has dropped from a handful, five or six geophysicists, to only two students this year from across the whole geology, environmental and geophysics courses, with none actually following the geophysics modules. So it is difficult to comment constructively on the geophysics student experience. Those I did meet generally seemed very positive about the course and their experience at Leeds. I recommend finding alternative opportunities for the external examiner to meet with the students as an area for development over the next period. Either this could be done earlier in the year or, as we have in , set up an intra-department conference at the start of the week during which the externals visit. Where masters students present an AGU style talk and Bachelors present a poster.

Another area of concern is the use of student Portfolios. The idea was to make students responsible for collating assessed work which would then be made available to the external examiners to assess the students and modules performance. This has not worked. The Portfolios are at best patchy, with the best students returning a relatively complete set of work whereas the weaker students may return few pieces if any. This is then of no benefit to the weaker student, as to me this appears as a negative attitude to learning, nor does it help me assess the width of the module and potential opportunities to develop assessed coursework are missed. However, I understand Portfolios are to be phased out next year but it was not clear to me what system was to be put in place. Whatever system is adopted it must ensure sufficient material is available to the external examiners to have a complete overview of the module assessment and examination.

During my tenure one module, SOEE2212, needed attention. The remedial action by the school was both quick and effective and the module is now on a firm footing and is fulfilling its learning objectives. There is an excellent balance between coursework and exam grades and a good spread of marks showing the course is providing discrimination of students abilities.

Writing skills continue to be an issue, this is not unique to this course and is the bane of science courses nationally. The course promotes writing skills and there is a limit to which this skill can be pushed without alienating the students.

I recommend that the next external examiner monitors the balance between the marks for assessed coursework and those obtained in examinations within the same module. It is expected that, in general, coursework will score a higher mark as the work is done without the stress induced by the examination process. However, diversity of significantly more than 10% between the methods of assessment may show a lack of balance. Possible causes were difficult to assess due to issues with the Portfolios mentioned above, an alternative approach could be to move away from summative to more formative coursework assessments for some modules.

Greater use is being made of the Virtual Learning Environment (VLE) this is the Leeds name for Blackboard. Though, this year, I had a user ID and password I found it difficult to move around the site with confidence and I feared I had been given administrative privileges. So I did not delve very deeply into the on-line marking and assessment as to get to many pieces of work you appeared to have to go through the grading page which might lead to an alert being sent to the student informing them of possible changes/tampering with their marks. I recommend that either training is provided or administrative staff time is provided to enable external examiners to track down pieces of work within the VLE. Also it would be good to ensure external examiners have only read-only access which is flagged up so it is clear that it is not possible accidentally to damage the records.

The recommendation, tabled this year, to increase the contribution of the project from 30 to 40 units is one I support provided it gives more time to the student for independent work and emphasises the need to develop writing skills. This change of project weighting can be accommodated by reducing the slot for an optional module.

Generally documentation provided by the module coordinators is excellent and provides an audit trail of marking. Though in some cases second marking appears to be a tick-box exercise with no justification for the marks given.

The suggestions above represent tweaks to what is an excellent programme. Leeds graduates have a good prospect for employment or entry into higher degrees.

## 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 course content is diverse and challenging and meets the intended learning outcomes. The expected levels of attainment were appropriate for the awards. Last year, and to some extent the previous year too, I was concerned about a lack-lustre performance by the then 3<sup>rd</sup> year BSc students. This is not the case this year. Both the BSc and MSci students have performed well. They show good consistency between the years and, in fact, this year there is a general increase in grades between years 2 and 3 or 2 and 4 as appropriate. This confirms the view of the school that last years disappointing results was partly cohort motivation from a weak 4<sup>th</sup> year contingent.

### 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.*

The programmes are highly regarded and their content is appropriate for the qualifications.

### 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 used are generally appropriate to the ILO. Though this year I noted that there was some significant discrepancies in the marks for coursework and examination within the same modules that was a possible cause for concern. Though some variation is to be expected, with coursework scoring higher because it is done without the stress of examination. One module, 3171 Volcanic Processes, seems particularly prone to this problem. Though this is an optional module, it appears that all geophysics students take this along with a number of geology students and others. The assessed coursework is about 25% higher than the exam mark, so someone with a strong 1<sup>st</sup> in the coursework will return a II.2 in the exam which is not good for morale. Between [redacted] and myself we found one piece of the assessed coursework in the portfolios (which may also indicate something) – the exercise was numerical so it is possible to get a 100% mark. So assuming the other of the two assessed coursework exercises are along the same vein, then high marks in the coursework is to be expected. The exam on the other hand is largely descriptive which then appears to floor the students and the return of poor marks. Feedback comments from the students like “not intellectually stimulating”, “just to make up credits” and “waste of time” further alarms me.

The other module with issues is Inverse theory, again a significant discrepancy between coursework and exam marks. Looking at the BSc cohort, mean coursework – 64% and exam raw marks – 52%. With a 80/20 weighting towards exam gives a mean mark of 55% which is at the lowest end of the 'acceptable range' as defined by your handbook. In addition 4(?) students failed the module. It was decided to rescale the exam mark by shifting 0% to 13.5% with a sliding-scale shift to 100%. The effect of this was to raise the mean mark of the exam to 59% and the overall module mean to 60% and no fails. The justification on the module moderation form was “to reflect the ability of the class” and “exam was set at such a level that it would test the MSci cohort”. These reasons concern me for two reasons: (1) if the second statement about exam level is true for this module then it is true for all modules where the students sit the same exam with 'extension exercises' for the master students which is the model generally used in this programme; (2) it could be argued that assessed coursework reflects the ability of the class, that's why it is assessed, so all cases where there is a large discrepancy between coursework and exam results should be normalised. Rule 6.7 in the Handbook requires a “clear rationale” for adjustment of marks and I don't think the reasons used here present meet that requirement that is particular to this year or exam paper that fully justifies the normalisation. I fear this may put you out on thin ice in the way you differentiate BSc and master exam scripts/markings and the balance with coursework.

### 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 a good diversity of modules which provide a range of opportunities for the students to engage in the learning process. The fieldwork classes are particularly important and provide some of the highest quality teaching and learning time.

The strengths and weaknesses of the student cohort was difficult to discern exacerbated by the poor returns in the Portfolios, though writing reports is a perennial problem due to lack of coursework.

**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 instigation of prizes for the best bachelors and masters project report was excellent and will provide motivation to the higher attaining students.

**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 link between research and the teaching and learning especially though the final year dissertations.

**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 the school provides good support and in previous years have given specific guidance on which students and modules they wanted input. However, this year the fact that some normalisation had been necessary for one module (Inverse Theory) was not highlighted was an oversight, as I would have liked to have spent more time on this issue if I have come across this module earlier during my review.

**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

**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?**

Modules proformas were very useful and generally informative as to how the module had been evaluated. Generally examination scripts had sufficient annotation to justify marking.

The Portfolios were poor. In the ones I trawled through to find coursework there was good to excellent records of 1<sup>st</sup> and 2<sup>nd</sup> year material with very sparse and typically completely absent 3rd/4<sup>th</sup> year so I was largely 'blind' as to what and how coursework was assessed. Finding material in the Portfolios was more lucky-dip. If you want external examiners to get a good overview you need to find an alternative way to retain coursework material

VLE – some evidence of use but in most cases the grade centre showed logging of submitted work but marks and feedback had been given outside VLE so again no help is assessing the coursework element. I found one area where Turnitin had been used (Research Seminars). But markers had not used some of the additional comment field to provide feedback and justification of marks. Support is required for external examiners in find their way around the site without risking disruption of the marks.

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

There was a good range of dissertation topics and I was please to see the inclusion of some fieldwork projects too. In general the assessment was appropriate and where necessary third marking had been carried out.

**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?**

Yes

#### Other comments

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

None

**School of Earth and Environment**

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**UNIVERSITY OF LEEDS**

07 October 2014

Dear ,

**RE: Response to External Examiner's Report (BSc/MGeophys Geophysical Sciences),  
2013/14**

Thank you again for examining our Earth Sciences undergraduate degree programmes, in particular the geophysical sciences programmes. Your views are an essential part of our quality assurance mechanism and we welcome your input into our teaching processes.

We were pleased to note your appreciation of the improvement made to the module SOEE2212 Tectonophysics, the introduction of prizes for Geophysical Sciences students and the inclusion of field-based independent research projects, carried out in response to previous years' comments. It is our hope that we will be able to address your current concerns to a similar degree of satisfaction.

In regard to teaching and assessment, a particular issue was significant discrepancies in the marks for coursework and examination within the same modules. Two modules were highlighted: SOEE3171 Volcanic Processes and SOEE3250 Inverse Theory.

For SOEE3171 Volcanic Processes, the marks for the coursework component were about 25 percent higher than those for the examination. This is a concern. Student feedback was also poor for the module. The geophysical sciences teaching team have been made aware of both of these issues, and will re-evaluate the assessment on the module.

For SOEE3250 Inverse Theory, the marks for the coursework component were about 12 percent higher than those for the examination, prior to re-scaling of the latter. This was reduced to 5 percent, once the examination marks were re-scaled from 52 to 59 percent. The justification for the re-scaling 'to reflect the ability of the class' and 'exam was set at such a level that it would test the MSc cohort' is concerning, but we believe that it was necessary under the circumstances. We apologise that the re-scaling was not highlighted. The issue is most likely related to a new member of teaching staff still learning the correct level for examinations. The teaching team has met with the member of staff concerned and is eager to make adjustments this year. In addition, the teaching team have met with the leaders of all level 3 modules that have a level 5 variant, to ensure that there is a clear difference in assessment between the two modules.

Writing skills were brought to our attention again. Previous changes to address this issue, such as the introduction of additional writing assignments in lower level modules, are still working through the system, and their benefits should be noticeable in future final years. In addition, this coming academic year, we will change the way that academic tutorials are run. In the past written work was marked by one member of staff, who gave feedback to the entire cohort in a lecture theatre setting. This year, written work will be marked by personal tutors, who will give feedback to the students in a small group setting. This should allow for more individual feedback and more in-depth discussion on how it can be improved. The Faculty of Environment also hosts a Royal Literary Fellow ( ), who is available to help students with their academic writing.

Other comments related to difficulties encountered in your role as an external examiner. These are addressed below.

In the first instance, the lack of uptake by graduates to meet with you during your visit to the university. Low numbers are unsurprising considering the timing of your visit. This is a problem across programmes and at other universities. We intend to offer the incoming external examiner the opportunity to visit the School and meet students just after Easter, or to have a video conference call at about the same time.

Student portfolios were introduced a few years ago, with the intention of making life easier for external examiners, but they seem to have had the opposite effect. As you already noted, these are currently being phased out. In future, all work will be retained by module leaders to be made available to the external examiner. In addition, the School is pushing for e-submission and e-marking, which automatically retains an electronic copy of the original and annotated submission, although this leads to another issue.

We are sorry that you found it difficult to move around the Virtual Learning Environment with confidence. In future, we will provide training for external examiners, so that they feel confident to use it to do their job.

Since this is your final year as our external examiner for Geophysical Sciences, we would like to take this opportunity to thank you for your valued input over the last four years and wish you all the best for the future.

Yours sincerely,

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