

**The University of Leeds**  
**EXTERNAL EXAMINER'S REPORT**  
ACADEMIC YEAR: 2010– 2011

**PART A: GENERAL INFORMATION***Subject area and awards being examined:*

<b>School of:</b>	<b>Earth Sciences</b>	<b>Subject(s):</b>	
<b>Programme(s) / Module(s):</b>	<b>Structural Geology with Geophysics</b>	<b>awards: (e.g. BA/BSc/MSc etc.)</b>	<b>MSc</b>

The completed report should be attached to an e-mail and sent as soon as possible, and no later than 6 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 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.*

The petrophysics course is unsatisfactory. A better organised lecturer may help, otherwise replace with a professional industry course.

***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.*

## 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 programmes was entirely suitable for an MSc level.

- 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.*

I cannot comment as there is no national standard for MSc in structural geology

- 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 methods were varied and were appropriate for the course.

- 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, it was clear that the best students did well and those who were sub-standard received suitable grades.

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

- 6. 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 course was already well organised and mature, only minor recommendations were made the previous year, which will take time to come through.

- 7. 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.*

The course includes many aspects of recent research in the area of structural geology (I am not in a position to comment on the geophysical side).

## **The Examination Process**

8. **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 sufficient.

9. **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?**

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

This was sufficient.

10. **Was sufficient assessed/examination work made available to enable you to have confidence in your evaluation of the standard of student work?**

Yes

11. **Were the administrative arrangements satisfactory for the whole process, including the operation of the Board of Examiners?**

Yes

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

Yes

## **For Examiners involved in Mentoring Arrangements**

*If you have acted as a mentor to a new external examiner or have received mentor support please comment here on the arrangements.*

## **Other Comments**

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

*There is an issues with the timing of software training. However this is probably unresolvable. The training should be delivered just after the software is first used. This gives the student some hands on experience and then he gets to learn the software, quickly followed up by use-in-anger. Getting the timing right is difficult as you are dependent on the software company and the fact that some students will use the software at different times. However, this is not much different to how it operates within oil companies.*

*The petrophysics course appears to be poorly taught / organised. The students were clearly dis-satisfied. I understand that this is not the first time this subject has been raised. I would seriously consider using an industry professional to deliver a course. Try and find a well organised course.*

*Keeping up-to-date with computer software and hardware is essential for a course like this. This means continual investment and improvements, plus having trained staff available to help students.*



# UNIVERSITY OF LEEDS

Head of School of Earth and Environment  
University of Leeds  
Leeds  
LS2 9JT

9<sup>th</sup> January 2012

Dear

**Re: Response to External Examiner's Report (MSc, PGDip Structural Geology with Geophysics), 2010/11**

Firstly, thank you for examining our Structural Geology programmes for the last academic session. We very much appreciate the time and effort that both of you have invested over the last year in your capacity as External Examiners. Given the changes in the course over the last few years it has been invaluable for us to have your fresh input into content, delivery and the student experience. We are naturally pleased with the overall consensus from yourselves, and from the student feedback in your confidential review that the course is of a high quality and delivers an ideal platform for future employment.

From both of your reports the obvious area of concern is the delivery and organisation of the Petrophysics course. This has been communicated to the School's Director of Student Education and we will put the module under review during the January module revision process. We will also discuss the concerns with the teaching staff involved. This will enable us to make substantive changes for the present cohort. In the longer term, we have recently appointed a Chair in Petrophysics and we anticipate using this expertise to revise the module in 2012-13.

We are aware that there is demand to cover other relevant areas (such as economic geology, geothermal, radioactive waste) and welcome your comments. As you say, the course load is appropriate, and therefore we are reluctant to add more material. One way that we are considering achieving this is having a number of industry seminars that will provide students with an awareness of these areas. For economic geology there is more of a case for specific material that forms part of a taught module. As you are aware, for 2011-12 we have introduced an Ore Deposit option, therefore your comments about making it core rather than an option are valuable. Making it a core module, however, will require us removing an existing component of the course and it is not immediately obvious what we can feasibly remove. As part of the review of the programme in January 2012 we will consider how (or if) we can implement such a change.

Subsequent to your appraisal of the course we have appointed a new academic, who will start in August 2012. In addition to covering core teaching she will also be able to add to the economic geology aspect which will help to strength the course from that perspective. We do recognise that it is important that this new position is not burdened with industry-related data activities which we recognise are essential to the course. We are discussing at course and school management level appropriate ways of covering this critical component of the course without an undue burden on academic staff.

Your specific comments, and those that you have fed back from the students, are very useful and enable us to make changes during the subsequent year to enhance the course further. Below we address the specific comments, and outline what actions we have either implemented or are planning to implement:

***Would be useful to have a very short (i.e. day) introduction to seismic interpretation towards the start of the course.***

This has been implemented for 2010-2011 and SOEE5721 now has a session on seismic interpretation.

***Very poor feedback on Transmeth part of course (hope I have spelt that correctly), which I believe is administered outside of main course lecturers.***

The purpose of this part of the course is to ensure a suitable level of maths for specific modules, although we recognise that Transmaths is not the most effective method, For 2010-2011 we have taken a different approach whereby we use the excellent online maths material available through skills@leeds. In addition, we have run bespoke maths drop in sessions for the course and highlighted the other maths support systems in place in the University

***Had many coursework deadlines just before Spanish fieldtrip – it would be helpful if they could be better spread out (e.g. move one earlier).***

We are aware of the issue of a number of deadlines towards the end of Semester 2. As part of the programme review we will form an overview of when module deadlines are and discuss with staff how we can either reduce the number or change the timing of them.

***Suggestion that links could more clearly be made between 1st term coursework and software presented in 2<sup>nd</sup> term.***

This has been changed for 2011-12 as we have now imbedded components of software use within SOEE5763 and SOEE5721 in Semester 1.

***Would like more and regular feedback of some of second term courses, including breakdown of marks on course.***

Across the School there is a teaching project focussed on improving feedback; this includes disseminating best practices so your comments are both timely and appreciated. We will review specific module feedback in Semester 2 and discuss with teaching staff how we can improve overall feedback.

In conclusion, we would like to thank you for your reflections on the course and look forward to reviewing the changes that we have implemented with you at the next examination meeting in September 2012.

We look forward to seeing you again next year.

Yours sincerely,

Head of School of Earth and Environment

The University of Leeds  
**EXTERNAL EXAMINER'S REPORT**  
ACADEMIC YEAR: 2010– 2011

**PART A: GENERAL INFORMATION**

*Subject area and awards being examined:*

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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.*

## 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 material, both in structure and content, is appropriate for an MSc on the topic.

**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.*

I do not know details of comparable programmes, but I am confident that this programme compares favourably with other MSc's in Geology-related topics and satisfies associated national benchmarks.

**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.*

In addition to conventional written exams, there are a variety of assessment methods involving coursework, projects, presentations/posters and main project. Combined with multiple marking of some work, the assessments provide a good measure of student's abilities and performance.

**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. The broad range of results highlights the discriminating nature of the coursework. Good students are very capable, showing a broad knowledge of structural geology/geophysics and associated techniques. The range in performance and ability is much as one would expect from a course which challenges students.

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

**6. 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.*

It is my first year.

**7. 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.*

Much of the coursework is informed by relatively recent developments and associated research. This is combined with project-work which requires research on the part of the students. For example, the main project often involves a very significant component of research, together with the application of techniques, and in a few cases the project results approach those of a published paper.

## The Examination Process

**8. 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.*

It was sufficient and we could have requested additional information if required.

**9. 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?**

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

Yes – I received appropriate documentation.

**10. Was sufficient assessed/examination work made available to enable you to have confidence in your evaluation of the standard of student work?**

Yes – I have access to selected classwork (posters/project) and to the main project thesis.

**11. Were the administrative arrangements satisfactory for the whole process, including the operation of the Board of Examiners?**

Perfectly.

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

Yes – the students are very well looked after, with staff showing a commitment to their well being which is exemplary.

***For Examiners involved in Mentoring Arrangements***

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***Other Comments***

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Arising from our exposure to the course and students, and from feedback from students, it is clear that the course brings students through the full range of technical issues linked to structural geology in various industries (hydrocarbons, minerals etc.), from the theoretical/conceptual through to practical/applied and including methodologies/software. The scope of the course is therefore excellent and provides an ideal basis for employment in a variety of application areas and for continuation into higher degrees. This broad range of technical content is identified by the students as a strength and I agree with them. Their view is that the course content should have core modules which equip them for variety of positions and industries. The consensus is that specialisation by the introduction of options (e.g. hydrocarbons and minerals) should be avoided, an approach which I feel will enhance the educational and vocational value of the course partly because the structural geological experiences/learning derived from different application areas is so complementary.

Feedback from students was excellent and the quality of students is very good. Modules were generally very well received and they made suggestions for improvements, the vast majority of which are very minor and easily implemented (see below). The students thought that the course load was appropriate, and that the associated teaching and supervision was very good. Staff associated with the course, and <<<>>> in particular, should be commended for the quality of education and support they provide. I understand that there is a new academic post and a teaching assistant soon to be appointed that will help reduce <<<>>> workload. This certainly seems a sensible way of managing the course. But with such a course (and the numbers involved), there still appears to be an unreasonable burden on academic staff associated with industry-related projects to perform the rather mundane associated tasks such as arranging data transfer from companies, data loading, ensuring students can access data etc. These tasks are essential for the continued high impact industry links but is well beyond what would be expected of a non-PhD teaching assistant, and is therefore an issue that would appear to be unresolved by the new posts. Despite these concerns, this is an excellent course which, to judge from previous external examiner reports, is getting better year after year: the course continues to evolve on the back of improvements identified by staff and those suggested by students. I expect demand to continue to increase as the course becomes better known and as a variety of industries have to grapple with the vagaries of structurally complex geology.

Student feedback provided the following points which should be considered:

- (i) Issues which could receive more attention in the course were suggested: geothermal, minerals (economic geology), thermal implications of structural evolution, engineering aspects of drilling.
- (ii) Would be useful to have a very short (i.e. day) introduction to seismic interpretation towards the start of the course.
- (iii) Very poor feedback on Transmeth part of course (hope I have spelt that correctly), which I believe is administered outside of main course lecturers. Consensus was that this course was not generally useful and that associated software does not work properly – I understand that related teachers were however responsive and helpful.
- (iv) Had many coursework deadlines just before Spanish fieldtrip – it would be helpful if they could be better spread out (e.g. move one earlier).
- (v) The petrophysics course appears not to be very well received, apparently because of both the volume and presentation of associated material. Whilst I appreciate that this topic is often not favoured by students, there is a consensus that the presented material could be decreased in volume, without detriment to what they consider to be a really good introduction to 'well-logging and petrophysics'.
- (vi) Suggestion that links could more clearly be made between 1<sup>st</sup> term coursework and software presented in 2<sup>nd</sup> term.
- (vii) Would like more and regular feedback of some of second term courses, including breakdown of marks on course – this is all very helpful feedback for students. They mentioned that <<<>>> approach to feedback is excellent and could represent a template for other courses.





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From both of your reports the obvious area of concern is the delivery and organisation of the Petrophysics course. This has been communicated to the School's Director of Student Education and we will put the module under review during the January module revision process. We will also discuss the concerns with the teaching staff involved. This will enable us to make substantive changes for the present cohort. In the longer term, we have recently appointed a Chair in Petrophysics and we anticipate using this expertise to revise the module in 2012-13.

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In conclusion, we would like to thank you for your reflections on the course and look forward to reviewing the changes that we have implemented with you at the next examination meeting in September 2012.

We look forward to seeing you again next year.

Yours sincerely,

Head of School of Earth and Environment