

The University of Leeds

EXTERNAL EXAMINER'S REPORT

ACADEMIC YEAR: 2015– 2016

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

Faculty / School of:	School of Mechanical Engineering
Subject(s):	
Programme(s) / Module(s):	Medical Engineering MECH3900, MECH5650
Awards (e.g. BA/BSc/MSc etc):	BEng, MEng

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?

NA

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 aims of the Medical Engineering programme and intended learning outcomes are appropriate for both BEng and MEng levels. The Medical Engineering programme has a strong emphasis in mechanical engineering subjects (years 1 and 2) when only additional lectures appear to provide the students with medical engineering inputs. The students recognise this, and in fact do not appear to take full advantage of the opportunities offered to them. There are specialised medical engineering modules (years 3 and 4) and extensive appropriate projects for their interest. The academic standards of the Medical Engineering degree programme appear to be at the appropriate 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.*

The standards appear to be comparable with other Mechanical Engineering programmes in the UK, based on my experience of External Examining at other institutions. The aims and intended learning outcomes meet the expectation of UK-SPEC

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.*

A wide range of assessment methods are used including examinations, group and individual projects, laboratories and other group exercises. These assessment methods allow students to demonstrate their knowledge and understanding of core mechanical engineering. The mean marks of the modules was relatively high but broadly the achievement of the students was appropriate for these levels.

In the medical engineering modules coursework was the predominant means of assessment. Unfortunately this year the coursework was not available for me to inspect as I could not access it through the VLE access I was given. This was a problem.

During my visit this year I mainly concentrated on looking at 4th year project work. For group projects there was plenty of examples of interesting work carried out. The medical engineers were integrated into teams along with engineers from other disciplines. The marks awarded appeared to be fair and the standard of final reports high.

For the 3rd year projects I was able to attend some of the vivas in May. These were conducted fairly and with integrity. The introduction of 2 independent marks for the report by the 2 examiners was new this year and I believe provided a more robust system. The marks awarded for the performance at the viva was joint and carefully considered. There were clear differences in quality between the projects across the range of marks.

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.*

The different assessment methods enable students the opportunity to meet the programme learning outcomes. In Medical Engineering there were final degree classifications for a relatively small number of students (BEng and MEng). The performance is comparable to other Medical Engineering programmes and compared well to Leeds students on the Mechanical Engineering programme.

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

NA

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 introduction of independent marking for the 3rd year project reports was an improvement from previous years. However this meant that the poster event, which had been an opportunity to talk to the students had disappeared. This was a shame as it developed a skill that was valuable for the 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.

The Medical Engineering programme benefits greatly from the research undertaken in the Institute of Medical and Biological Engineering. Students are fully aware of this and indeed it provides opportunities for students to undertake work placements internally over the summer as well as to for the best to take up PhDs. Individual projects in medical engineering offered were connected with the research. Some of the specialist modules are also informed from the research activities.

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

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

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.

Marked examination papers, individual and group project reports were available for my visit. I also had access to the VLE, but this was not particularly valuable as the coursework that was apparently on the VLE was not visible to me. It was not until afterwards that I was aware of what was missing.

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. The examination papers I reviewed were of a good quality that allowed students to demonstrate both knowledge and understanding of the subjects.

It would be valuable at the visit to have the feedback loop closed, so that the recommendations I made were commented on by the examiners – either accepted or not (as appropriate).

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?

I was able to view a range of examination papers and project reports that covered the full range of marks. The examination papers had marks and annotations on them.

The project reports were clearly marked appropriately marked for the different elements with the report independently double marked.

I did not see any coursework on this visit.

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

The project areas for 3rd and 4th year projects were interesting and related to the research interests of the Institute of Medical and Biological Engineering

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?

The staff in the Student Support Office were excellent again this year and they run a very smooth examination process.

I attended vivas for 3 BEng projects, and discussed the programme with a range of medical engineering students on 20 May 2016.

I was able to attend the Final Board of Examiners on 22 June 2016. All discussions were fair and I am satisfied with the recommendations of the Board

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

The School gave due consideration to students with mitigating circumstances. A clear explanation of each decision was made at the Board of Examiners

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

I visited the Department and discussed the programme with a selection of medical engineering students on 20 May 2016. This visit was valuable to provide me with informal insight into the Programme – the students were all very satisfied with their programme. They were clear about what was being offered and how it contributed to their career plans.

The project allocation process was well accepted by students

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UNIVERSITY OF LEEDS

16 November 2016

Dear

Response to your External Examiner's Report for BEng/MEng Medical Engineering

Thank you for your recent report. We were pleased to note your generally positive views of these programmes and the procedures used to assess them. In response to the small number of specific queries in your report our responses are as follows.

Further Assistance with your access to coursework

This is a very useful suggestion and next year we propose to provide you with a representative sample of coursework from the VLE in a convenient, electronic format.

Removal of the poster events for projects

We agree that the new independent marking has made the assessment of projects more robust. We believe that there are already ample opportunities for students to develop the skill of preparing and presenting posters during their programmes.

Responses to External Examiner Comments

Next year we will ensure that all academics give a formal response to each External Examiners' comments.

I would be very happy to provide any further information or talk to you in person if that would be helpful.

Yours sincerely

Head of School