

**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:	Civil Engineering
Subject(s):	<i>Architectural Engineering</i>
Programme(s) / Module(s):	BEng and MEng
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](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*

No.

**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

**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.*

In relation to the individual courses the standards and appropriateness of the Aims of the course and their related Intended Learning Outcomes are commensurate with the level of the awards given in my opinion. In relation to the course as a whole, the ambitions embedded in the title of 'Architectural Engineering' are well met in the high level of design integration between the respective disciplines as evidenced by the design projects reviewed.

**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.*

From my experience the standards expected of students graduating from the above courses are at, or in cases such as the structures teaching, above the standards I have encountered for other courses for similar degrees in comparable fields.

**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.*

There are three main assessment methods used for these courses:

- The exam papers I reviewed were of a good standard and appropriate to their subjects. I did have one concern that those who set the history and theory exam paper had not given example answers as they said they did not feel it necessary for their subject area. I disagreed and still maintain that is you cannot provide sample answers, however theoretical, to a question you should not be asking it. The tutors in question agreed and provided sample answers.
- The technical reports I reviewed were of a good standard on the whole ranging from excellent to cursory with a high general average, particularly in the structures and materials subjects..
- The design projects I reviewed showed an originality that is founded on a solid understanding of the potentials for structures of different types and materials and a good level of understanding of the architectural performance of the forms and their uses. Particularly good is the setting of the final year design in the context of areal historic urban site and the excellent site analyses undertaken before the actual designs were started. I have an on-going concern about over-heating that is my own but often applies to buildings with extensive glazing. While natural ventilation and servicing is well handled the lighting / solar gain aspects are also touched upon.

**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 majority of the early years courses are shared with the students of Civil Engineering. The major project in the final fourth year course is the design project, set up to explore and assess a wide range of design related skills and understandings in the Architectural Engineering Project course (CIVE5709M) which gives a module credit rating of 60 over the course of the year. At four different stages over the course of this project the student is thoroughly assessed:

- 1) Site Analysis (10%);
- 2) Precedent Study (10%);
- 3) Concept design (30%)
- 4) Proof of Concept stage (50%) that covers six different aspects of the design that are integrated into the final mark.. Formal feedback is given to each student at each of those stages. I identified and reviewed examples of the submissions that resulted in the highest and lowest marks and based my judgement of the success of the courses for each year on such assessments. The nature and level of feedback is very much appreciated and constructive. I found the marks awarded to be commensurate with the standards reached. The students scored well on this project and were obviously enthused by the project and worked hard on it. Good across the board marks for the site analysis and precedent studies. Perhaps some encouragement to be a tad more critical in their assessments might lead them to be more critical of their own design assumptions and solutions when the time comes. The Concept design stage enabled students to put forward and test their idea and have an early discussion on what was going to work before going into the final design phase. The Proof of Concept reports were on the whole impressive and again the detailed feedback really illustrated to the students the strengths and weaknesses of their design against each attribute of it and enabled them to refine and improve their designs as a result.

**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 introduction of a new architectural lecturer has enhanced the architectural input into the course. A new building services lecturer has been brought in to address the need identified in my last report for more building physics input, resulting from a gap left by the loss of a member of staff. . 'Integration' remains a strong selling point for the final design project in 4<sup>th</sup> 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.*

A number of the staff in the design team are specialists and their research and experience demonstrably informs the development and direction of the main design projects in 3<sup>rd</sup> and 4<sup>th</sup> year. This is particularly true of the building physics and building services staff.

**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 material was provided in a timely and efficient manner.

**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?**

Yes – a great deal of trouble was taken to set out the material in such a way as to make it easily accessible and comprehensible to me.

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

N/A

**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**

I was again satisfied and in places impressed by the high standard of the course outputs and the care and dedication of the teaching staff on the course under <<>>. Students during the oral session reinforced that they felt that lecturers were very 'available and helpful' and that they appreciated the care and attention given to them over the duration of the course. Standards of feedback for students on the design projects are high.

The loss of the building physics lecturer <<>> had created a definite lacuna in the staff skills base that has now been filled by a new member of staff. .

Last year final year students during their session with us mentioned that they thought that there is a lack of input on the HVAC side of their teaching and this issue was not raised again this year.

Students on this course get first class structural training and two areas touched on and not extensively developed are those of lighting and acoustics but every different course has its own strengths and the lighting area will be further reinforced by the increased level of lighting analysis opportunities they will have as a result of the enhanced IES training they may get from the new member of staff.

The move into a higher level of studio-based teaching in the 3<sup>rd</sup> and 4<sup>th</sup> years has been very successful and the students really appreciated working on their design projects together in these spaces claiming that they benefitted from the learning from other students in the studios while working on parallel design projects there and the enhanced provision of studio spaces meant that many groups of students were spending more time working in the studio spaces together.

One issue the students raised this year was that of the problems printing out materials and the lack of technician support for the printing out of their projects. This is an area that could be looked into and remedied without too much effort.

Finally I would like to note that I was struck this year but the really successful 'integration' of the many different technical strands of the teaching that are synthesised into the final design projects in years two and three and, despite claims of excessive working on the design projects from students, did result in impressive and well-reasoned final designs.

In conclusion I was satisfied with the standards of teaching and learning achieved in the course and pleased to learn of the excellence of the student experience among this cohort in the school.

<<>>

22st June 2016

Faculty of Engineering

School of Civil Engineering

University of Leeds  
Leeds LS2 9JT, UK

T (direct Line) +44 (0) 113 343 2268

W [www.engineering.leeds.ac.uk](http://www.engineering.leeds.ac.uk)

18 October 2016



UNIVERSITY OF LEEDS

Dear

Thank you for your External Examiners report on the School's undergraduate Architectural Engineering programmes for the 2015/16 academic session. I am very pleased to note your continued positive feedback on the programmes and the support that the teaching team gives to our students. I note your supportive comments about the final year design project and, in particular, the feedback given by staff to the students. With regard to your comment about our students needing to be more critical of their design assumptions and solutions, we introduced two design reviews in semester 1 with a further review in semester 2 and we will be using the same strategy this year in the hope that the students will gain more constructive criticism from their peers as well as the staff and visiting practitioners. I am very pleased to hear that the teaching of HVAC was not raised by the students again in 2015/16 – this is almost certainly due to the input from our Associate Professor in Building Physics, who has also completed a review of the Building Physics teaching with our Professor of Environmental Engineering for Buildings,

Thank you for agreeing to continue as our external examiner for our undergraduate programmes in Architectural Engineering for an additional year. When we introduced our revised programmes at the start of the 2014/15 academic session, the 2 pathways were named Architectural Engineering (pathway 1) and Architectural Engineering (pathway 2), both working titles. As, I think, Professor mentioned to you, the programme titles have since been changed as follows:

Previous Title: MEng, BEng and BEng in Architectural Engineering (pathway 1)

*New Title: MEng, BEng and BEng in Architectural Engineering*

These programmes (including the Industrial and International variants) have been accredited to CEng level by the Joint Board of Moderators

Previous Title: MEng, BEng in Architectural Engineering (pathway 2)

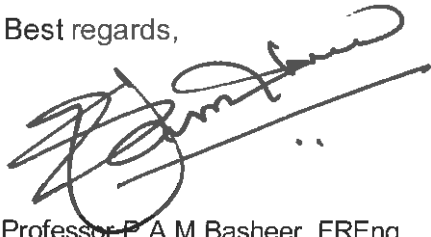
*New Title: MEng, BEng in Architecture*

This programme (including the Industrial variant) has also been accredited to CEng level by the Joint Board of Moderators. It has also been submitted to the ARB for Part 1 prescription. At this stage (October) we are still awaiting to hear if our bid has been successful.

The new programmes have an enhanced thread of studio-based design compared with the outgoing programmes. As a result I believe that the level of integration of architecture and engineering will be improved further, particularly in the 2<sup>nd</sup> and 3<sup>rd</sup> year design projects. Coupled with this increased element of studio-based learning I am pleased to report that the School's new design studio (approximately 400m<sup>2</sup> of useable flexible learning space) is now in use. We will be discussing soon how best to address the concerns that you raised from the students regarding the plotting of drawings and the lack of technician support.

I look forward to seeing you again at our June 2017 Board and thank you again for your much-valued work and support as one of our external examiners.

Best regards,

A handwritten signature in black ink, appearing to read 'P A M Basheer', is written over a horizontal line. The signature is stylized and cursive.

Professor P A M Basheer, FREng  
Head of School  
Chair of Structural Engineering