

The University of Leeds**EXTERNAL EXAMINER'S REPORT**

ACADEMIC YEAR: 2012– 2013

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

Faculty / School of:	Biological Sciences
Subject(s):	<i>Biochemistry</i>
Programme(s) / Module(s):	
Awards (e.g. BA/BSc/MSc etc):	BSc

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 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

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?

No, but I was made aware of recent changes to the programme in response to proviso comments.

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

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 Biochemistry programmes are well constructed, preparing the best students to a high standard for a career in science or in any area where their skills can be adapted and employed to good effect. The standards are entirely appropriate for the award of the BSc degree.

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 subject matter, aims and ILOs in the BIOC programmes are appropriate and comparable to biochemistry degrees at other leading 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.*

Apart from the Skills module, the range of assessments was somewhat limited and there would be some value in considering diversification of the format of assessment in the examinations, perhaps including more problem-solving. I understand that this is already a component of the skills module, but this is only a 20 credit module and the three 20-credit advance topics modules could, in principle, incorporate more assessment of non-essay based skills to give a better balance of credit to the thinking skills needed for problem-solving and data interpretation that are essential in a good scientist.

The marking of student work had been carefully done and I had no cause to disagree with any of the marks I saw for individual pieces of work. Scripts were appropriately annotated, which I found very useful in understanding why a particular mark had been awarded. Model answers for exam questions were also provided and were extremely helpful.

The exam board was conducted to a very high standard with each student given an appropriate level of consideration. I found the handling of mitigating circumstances, some of them particularly difficult to deal with, to be exemplary. Each affected student was carefully considered and the appropriate outcome was reached.

The classification of awards was something that I, along with other external examiners who were present at the same time, found baffling because of the bizarre mechanisms at Leeds for defining boundaries between degree classes. Individual pieces of assessment are marked to very clear boundaries that are easy to understand. It is clear, for example that 69% represents a very good upper second class mark but falls short of a first class performance. However, I was shocked to discover that an average mark of 68.5% is all that is needed for a first class degree to be awarded. If a student were to score 69% in each assessed module they would be awarded a first class degree, despite having been unable to produce a single first class module. This makes no sense at all and leaves the university open to accusations of grade inflation. I am unaware of any other institution that is prepared to separate the boundaries for degree classification from the marking of individual pieces of work by, effectively scaling after the event. I found it difficult or even impossible to understand how this system works. It is clear that most academic staff in Leeds find it difficult to understand or to explain and I would be surprised if students have a full grasp of it. I would strongly urge the university to revert to a simpler, comprehensible system for classification.

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 very top students demonstrated real excellence across the board. The general quality of the work I saw was high and, having met with some of the students earlier in the year, I could see that the general level is comparable with those at other good universities.

The projects, particularly the lab-based projects, had allowed students to demonstrate a wide range of skills and the written reports were of a standard to those I have seen at Edinburgh and at other institution where I have examined. The standards, and the marks demonstrated in the written examinations did not reach the same levels for a substantial number of students. This may be because they are not adequately prepared for this type of assessment and I would urge the programme team to consider how they might prepare the students to better demonstrate their capabilities.

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. 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.

As this was my first year at Leeds, I cannot give a detailed response in this area.

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.

This is an intrinsic strength of the programme, most clearly demonstrated in the project component of the final year but also in the advanced topics modules which discuss recent research and even, in some cases, future directions of research. This gives the students heading for research careers an excellent grounding and gives all students a good understanding of the nature of research and the basis of scientific knowledge and understanding.

For Examiners involved in mentoring arrangements

8. If you have acted as a mentor to a new External Examiner or have received mentor support please comment here on the arrangements

9. 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.*

I was happy with all the information provided both centrally by the university and by staff in Biological Sciences.

10. 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, this was very helpful. Receiving the programme and module information before meeting the students in March made it easy to have a meaningful discussion of their experience as biochemistry students throughout each of the three years.

11. 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, this was well handled. The draft questions were generally of a high standard and the few comments I have were taken on board.

12. 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, I saw all the work for borderline students and staff were responsive to requests for even more examples! Scripts were well annotated in general but in a few cases the marker's handwriting was very difficult to read.

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

Yes. The lab projects are of a very high standard, carried out within active research teams and provide a solid training in practical science. These are highly appreciated by students who want a career in research, industry or other areas of lab-based science. A large proportion of the students undertook literature-based projects. Most institutions find it increasingly difficult to provide sufficient numbers of lab projects so this does not come as a great surprise but I hope that all students are made aware of how this might affect their ability to practise science in the future and are given appropriate guidance in selecting an appropriate project.

14. 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 administrative staff did an excellent job in putting together all the information for the Board and the external examiners. The Board itself was smoothly run with all relevant staff given the opportunity to input relevant information and views. In most cases the decisions were very clearly and needed no discussion, but I felt that a good consensus and the correct decisions were made in ALL cases.

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

I thought that the handling of these was exemplary, with confidentiality being maintained but enough information being provided to enable the Board to reach the right decision for each affected student.

Other comments

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

External Examiner:

Programme Area: **BSc Biochemistry**

Academic Year: **2012/13**

Date of Response: **30 August 2013**

Dear

Many thanks for acting as External Examiner for the Biochemistry programmes for 2012-3. Many thanks also for the very positive comments that you have made about many aspects of the Biochemistry programmes.

We are very pleased that you find the courses well-constructed and are delighted that you note the high employability that our course provides.

You raised a small number of points and I'd like to deal with each in turn.

1. **Assessment.** You comment on a limited range of assessments. I think you have only considered the final year, but students on these programmes have their classification calculated over both second and third year and we treat the Biochemistry programme as an integrated course. Thus although you looked closely at the three 20 credit modules in year 3 that are assessed by examination only, the students are actually classified on 240 credits of modules. The table below summarises the assessments over all of the compulsory modules in years 2 and 3.

Module	Type	Assessments	Credits	% of module marks
BIOC2301	Lecture module	In-course	Five MRQ tests	20%
		Examination	Paper 1 MRQ paper Paper 2 Short answer questions Paper 3 Essay questions	20% 25% 35%
BIOC2302	Practical module	In-course	Three small lab reports Large lab report MCQ on assay design Pre-class on-line tests Lab book checks Lab performance	30% 30% 10% 10% 10% 10%
BIOC2303	Skills/data handling	In-course	Participation in teaching sessions Data handling problem 1 PKU Data handling problem 2 Kinetics Extended data handling problem Problem in cloning & expression Oral presentations Essay	10% 5% 5% 20% 5% 5% 5%
		Exam	Data handling examination paper	45%
BIOC3160	Project	In-course	Final report Execution of the project Oral examination	70% 20% 10%
BIOC3111	Lecture	Exam	Essays	100%
BIOC3221	Lecture	Exam	Essays	100%
BIOC3231	Lecture	Exam	Essays	100%
BIOC3303	Skills/data handling	In-course	Three data handling assignments Two 2.5 week mini-self-directed learning projects Research seminars	30% 30%
		Exam	Writing an abstract Data handling and problem solving	10% 30%

In addition to these summative assessments there are many formative assessments to develop the skills we expect from our graduates. I hope this clarifies the assessments for the course and re-assures you that a full range of skills are developed and assessed as part of the programme. We also continually appraise our courses and plan to look at the assessment balance again in the coming year.

2. **Degree classification.** Many staff within the School associated with the Biochemistry programmes share your frustration and confusion with the University marking scale. Schools are permitted to mark work on the 0-100 scale but final module marks must then be converted to the University 2-9 scale. There is a formula for this conversion that we have to use. In the main range (30-80) this is a linear scale, but outside this range it is a non-linear scaling. Once module marks (on the 2-9 scale) are awarded the overall mark is calculated by a credit weighted average of the module marks. The boundaries for the classifications are 5, 6, and 7 on the 2-9 scale with a zone below these boundaries as a borderline zone. However within that zone there is automatic promotion to the next higher classification for a proportion of the zone and the size of the band for automatic promotion differs for each class boundary (as shown below).

Mark range (on 2-9 scale)		
7.0 – 9.0		1st Class
6.8 – 7.0	Borderline	
	6.85 – 7.0	Automatic promotion to 1st
	6.8 – 6.84	Discretionary zone – considered by exams board
6.0 – 6.8		Upper Second
5.85 – 6.0	Borderline	
	5.9 – 6.0	Automatic promotion to Upper Second
	5.85 – 5.89	Discretionary zone – considered by exams board
5.0 – 5.84		Lower Second
4.9 – 5.0	Borderline	
	4.95 – 5.0	Automatic promotion to Lower Second
	4.9 – 4.94	Discretionary zone – considered by exams board
4.0 – 4.89		Third
<4.0		Fail

This is University policy and was designed to come into effect at the time when the University stopped allowing us to carry out viva voce examinations for borderline candidates. This move was not welcomed by most staff in Biochemistry. The analysis at the time suggested that most students attaining 6.85-6.95 marks did get promoted once they had been examined orally and so they were automatically promoted in the new scheme. You are absolutely correct however that a student who had carried out every piece of work at a very high 2.1 level and had therefore been correctly marked at 69% for every piece of work would gain 6.9 on the University scale and would be automatically promoted to a First Class Honours degree. Staff on this programme would welcome a return to more staff involvement in examining and classification so that anomalies like this could be prevented.

3. **Essay marks compared with other marks.** Like you we have noted that students tend to do much better on the in-course and project marks compared with the essay marks in year 3. We had hoped that we had done something to alleviate this problem by introducing essay writing as a major part of tutorials held throughout Year 1. However we have realised that these skills need drip feeding to the students throughout the course. For the first time in 2012-3 we therefore introduced essay writing skills training into year 2 as part of BIOC2303 (the skills module). Students were given a choice of past exam essays which they signed up for and wrote an essay which was then marked and critiqued by the setter or another expert in the area. A tutorial on the essays was then arranged to provide more feedback. Along with other practice for the students brought in for the first time in 2012-3 (for the short answer question paper) this resulted in our best set of examination results since the new course was designed. Your comments in your report have also highlighted that we need to give some more training in year 3 and we have already put in place a scheme to provide in year 3 similar essay training to that in year 2.
4. **Handwriting.** Staff often find the students' handwriting difficult to read, but you noted that some staff comments were provided on scripts in unintelligible writing. We will highlight the fact that staff should write clearly on next year's instructions to markers.
5. **Project choice.** Biochemistry is a practical subject and we do our best to ensure that students have access to the latest research facilities and to the choice of third year projects. We have also noted that some students opt to undertake a literature-based project in year 3. We do already provide some help and guidance in project choice, particularly for those students think of a career in research, and I think our employment statistics are testament to how well we do this. Nevertheless there is still room to provide more help and guidance and we will look again at what we can do in this area. We have

already carefully considered project choice and allocation as part of the planning for the introduction of our integrated BSc/Master with our new 4-year MBIol degree programmes. The first students are transferring onto year 3 of this course in 2013 and you should see them graduate in 2015.

We were also delighted to note your comments on our handling of mitigating circumstances for students. This is a very difficult area and we have worked hard over a number of years to streamline our procedures and to make them fair and transparent. I would thank the staff involved in this area for all their patient and caring work and it was nice to see this recognised by an external examiner.

I hope I have answered the points you raise satisfactorily. Of course if you have further questions or comments please don't hesitate to get back to me and I look forward to seeing you again next year.

Yours sincerely,

Programme Leader (Biochemistry)