

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

ACADEMIC YEAR: 2016-17

**Part A: General Information**

**Subject area and awards being examined**

Faculty / School of:	Mathematics and Physical Sciences/Chemistry
Subject(s):	<i>Chemistry and Natural Sciences</i>
Programme(s) / Module(s):	Degree programmes administered by the School of Chemistry
Awards (e.g. BA/BSc/MSc etc):	BSc, MChem

**Part B: Comments for the Institution on the Examination Process and Standards**

**Points of innovation and/or good practice**

*The final year project event (posters and one minute presentations) in May is excellent, promoting a highly collegiate cross-departmental feeling.*

**Enhancements made from the previous year**

*Comments made the examiners last year were taken board and have led to a number of improvements in processes this year. In particular, the project moderation process is to be commended.*

**Matters for Urgent Attention**

**For Examiners in the first year of appointment**

1.	Were you provided with an External Examiners Handbook?	N/A
2.	Were you provided with copies of previous relevant External Examiners' reports and the response of the School to these?	N/A
3.	Were you provided with a External Examiner Mentor?	N/A

**For Examiners completing their term of appointment**

4.	Have you observed improvements in the programme(s) over the period of your appointment?	N/A
5.	Has the school responded to comments and recommendations you have made?	N/A
6.	Where recommendations have not been implemented, did the school provide clear reasons for this?	N/A
7.	Have you acted as a External Examiner Mentor?	N/A

*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**

8.	Is the overall programme structure coherent and appropriate for the level of study?	Y
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9.	Does the programme structure allow the programme aims and intended learning outcomes to be met?	Y
10.	Are the programme aims and intended learning outcomes commensurate with the level of award?	Y
11.	Did the Aims and ILOs meet the expectations of the national subject benchmark (where relevant)?	Y
12.	Is the programme(s) comparable with similar programmes at other institutions?	Y
<i>These are very much in line with those prescribed by the Royal Society of Chemistry, as to be expected for accredited degree programmes. The standards are comparable with those at competitor universities, with good challenging examination questions being set across a wide-ranging curriculum.</i>		
13.	Is the influence of research on the curriculum and learning and teaching clear?	Y
<i>This is a key component of project work in the degree which forms a major part of the final assessment.</i>		
14.	Does the programme form part of an Integrated PhD?	N
<i>Please comment on the appropriateness of the programme as training for a PhD:</i>		
15.	Does the programme include clinical practice components?	N
<i>Please comment on the learning and assessment of practice components of the curriculum here:</i>		
16.	Is the programme accredited by a Professional or Statutory Regulatory Body (PSRB)?	Y
<i>See answer to Q12 above.</i>		

### Assessment and Feedback

17.	Does the programme design clearly align intended learning outcomes with assessment?	Y
Assessment is conducted through a mix of examinations, lab work and project work. The examination papers are all scrutinised by the external examiners in order to assure quality and marking criteria. The examiners read a number of project reports produced by the students which were in line with the expectations for final year students. The project marking process is robust, although there could perhaps be more scope for awarding the highest marks.		
18.	Is the design and structure of the assessment methods appropriate to the level of award?	Y
19.	Were students given adequate opportunity to demonstrate their achievement of the programme aims and intended learning outcomes?	Y
<i>The students graduating in chemistry from Leeds in 2017 are of a comparable standard to chemistry students graduating from other similar UK institutions, with the degree classifications in line with those awarded elsewhere. Students were able to demonstrate their achievements in a variety of ways, as appropriate to the learning outcomes.</i>		
<i>Please use this box to provide any additional comments you would like to make in relation to assessment and feedback:</i> Length of project reports varied significantly; some guidelines on this would be helpful. There was a cluster in overall project marks around 70% making discrimination difficult, but there was a good correlation with the advanced		

topic mark which is pleasing. The department could consider slightly more rigorous marking criteria for project reports.

In general, students seem to do worse in physical chemistry examinations than they do in organic chemistry or inorganic chemistry examinations.

I would have liked to see a full list of responses to the comments that I made on the examinations process.

### The Progression and Awards Process

20.	Were you provided with guidance relating to the External Examiners role, powers and responsibilities in the examination process?	Y
21.	Was the progression and award guidance provided sufficient for you to act effectively as an External Examiner?	Y
22.	Did you receive appropriate programme documentation for your area(s) of responsibility?	Y
23.	Did you receive appropriate module documentation for your area(s) of responsibility?	Y
24.	Did you receive full details of marking criteria applicable to your area(s) of responsibility?	Y
25.	Were you provided with all draft examination papers/assessments?	Y
26.	Was the nature and level of the assessment questions appropriate?	Y
27.	Were suitable arrangements made to consider your comments on assessment questions?	Y
28.	Was sufficient assessed work made available to enable you to have confidence in your evaluation of the standard of student work?	Y
29.	Were the examination scripts clearly marked/annotated?	Y
30.	Was the choice of subjects for final year projects and/or dissertations appropriate?	Y
31.	Was the method and standard of assessment appropriate for the final year projects and/or dissertations?	Y
32.	Were the administrative arrangements satisfactory for the whole process, including the operation of the Progression and Awards Board?	Y
33.	Were you able to attend the Progression and Awards Board meeting?	Y
34.	Were you satisfied with the recommendations of the Progression and Awards Board?	Y
35.	Were you satisfied with the way decisions from the School Special Circumstances meeting were communicated to the Progression and Awards Board?	Y

*The external examiners visit was handled extremely well, with all necessary helpful information either immediately available or available on demand. The Progression and Awards Board meeting was handled very professionally and the external examiners had full confidence in the process.*

### Other comments

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

1<sup>st</sup> December 2017

Dear

**RE: Undergraduate Chemistry Programmes 2016/17**

I am writing on behalf of the School of Chemistry to provide a formal response to your Examiner's report for 2016/17.

I was very pleased to see your positive comments regarding the final year project presentations, project moderation, and our standards and procedures.

In line with the University's new procedures, I enclose a copy of your report, together with (in part C) our detailed responses.

- *The project marking .. could perhaps be more scope for awarding the highest marks.. There was a cluster in overall project marks around 70% ..The department could consider slightly more rigorous marking criteria for project reports.*  
We will emphasise particularly to staff this year the importance of following the guidelines, and of using the full range of marks as defined by the particular criteria. We plan to review the marking criteria for 2018-19.
- *In general, students seem to do worse in physical chemistry examinations than they do in organic chemistry or inorganic chemistry examinations.*  
A more robust module review process has been introduced this year, also the process of exam script moderation has also been modified. We will be looking closely at the marks for highlighted modules this year with the expectation that these move closer to the expected average.
- *I would have liked to see a full list of responses to the comments that I made on the examinations process.*  
We apologise that this was not done and will ensure a response is provided in future.

On a final note, I would like to take this opportunity to thank you for your considered contributions and we look forward to working with you in the coming year.

Yours sincerely,

Head of School

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

ACADEMIC YEAR: 2016-17

**Part A: General Information**

**Subject area and awards being examined**

Faculty / School of:	Chemistry
Subject(s):	<i>Chemistry- including joint honours programmes and natural sciences</i>
Programme(s) / Module(s):	
Awards (e.g. BA/BSc/MSc etc):	BSc, MChem

**Part B: Comments for the Institution on the Examination Process and Standards**

**Points of innovation and/or good practice**

*Please highlight areas of innovation or good practice within the programmes or processes you have been involved with in this box.*

The flash presentations and poster sessions held in May are particularly impressive. Each MChem research project student gave a one-minute presentation introducing the project and this was followed by a poster session at which there was opportunity to discuss in-depth the research projects. Both the presentations and poster sessions were well attended by staff and students. The students described their work with confidence and enthusiasm and it is a relaxed forum for assessment.

**Enhancements made from the previous year**

*Please highlight any enhancements made to the programme(s) or processes over the past year in this box.*

The marking protocol for final year research projects has been revised and up-dated.  
The Progression and Awards Board schedule has been updated to enable all staff to attend the unreserved business including the summary comments given by the External Examiners

**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

**For Examiners in the first year of appointment**

1.	Were you provided with an External Examiners Handbook?	N/A
2.	Were you provided with copies of previous relevant External Examiners' reports and the response of the School to these?	N/A
3.	Were you provided with a External Examiner Mentor?	N/A

**For Examiners completing their term of appointment**

4.	Have you observed improvements in the programme(s) over the period of your appointment?	Y
5.	Has the school responded to comments and recommendations you have made?	Y
6.	Where recommendations have not been implemented, did the school provide clear reasons for this?	Y
7.	Have you acted as a External Examiner Mentor?	Y /N

*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*

I have been impressed with the examination papers and assessment processes. Academic and administrative staff should be congratulated for efficiently collating and clearly presenting the large volume of marks and associated papers and projects. Mitigating circumstances are dealt with professionally. The degree programmes are of a high standard.

In the May visit each year we had opportunity to meet a group of students which gave good insights into the course from their perspective. They were always very positive about the course and their experiences at the University of Leeds and particularly noted their appreciation of the high quality of teaching and support they had received.

As the MChem project is such an important component of the overall degree classification (60 cp, final year), much of the focus during the last 3 years has been related to their assessment. The assessment procedures have been changed (see below) and it is good to see inclusion of spectra, where appropriate, in the reports which gives confidence of the practical ability of the students.

## Standards

8.	Is the overall programme structure coherent and appropriate for the level of study?	Y
9.	Does the programme structure allow the programme aims and intended learning outcomes to be met?	Y
10.	Are the programme aims and intended learning outcomes commensurate with the level of award?	Y
11.	Did the Aims and ILOs meet the expectations of the national subject benchmark (where relevant)?	Y
12.	Is the programme(s) comparable with similar programmes at other institutions?	Y
<p><i>Please use this box to explain your overall impression of the programme structure, design, aims and intended learning outcomes.</i></p> <p>The chemistry degree programmes at the University of Leeds are of the appropriate standard - stimulating, challenging, and well balanced not only giving an excellent foundation of scientific knowledge but also training in a variety of skills including communication (written and oral), the ability to solve problems, practical skills and team-working – all qualities which will be valued by future employers. All aspects of teaching, assessment and pastoral care are of a very high standard which compares well with other leading chemistry departments in the UK.</p>		
13.	Is the influence of research on the curriculum and learning and teaching clear?	Y
<p><i>Please explain how this is/could be achieved (examples might include: curriculum design informed by current research in the subject; practice informed by research; students undertaking research)</i></p> <p>The University of Leeds has an excellent reputation in research and final year MChem students have opportunity to conduct their projects within research groups. They have a diverse range of interesting topics to select from. There is also an impressive range of topics available for literature dissertations.</p>		
14.	Does the programme form part of an Integrated PhD?	N
<p><i>Please comment on the appropriateness of the programme as training for a PhD:</i></p>		
15.	Does the programme include clinical practice components?	N
<p><i>Please comment on the learning and assessment of practice components of the curriculum here:</i></p>		
16.	Is the programme accredited by a Professional or Statutory Regulatory Body (PSRB)?	Y / N

Please comment on the value of, and the programme's ability to meet, PSRB requirements here:

### Assessment and Feedback

17.	Does the programme design clearly align intended learning outcomes with assessment?	Y
18.	Is the design and structure of the assessment methods appropriate to the level of award?	Y
19.	Were students given adequate opportunity to demonstrate their achievement of the programme aims and intended learning outcomes?	Y

Please comment on 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 students performed to a high standard during their time in Leeds as reflected in the number of first and upper second class honours degrees.

Please use this box to provide any additional comments you would like to make in relation to assessment and feedback:

The MChem project is a 60 cp unit and a new system of assessment was introduced this year - the project report is assessed by two academic staff, neither of whom is the supervisor. This is a significant improvement.

In the coming year it would be useful to review both the marking criteria and the weighting given to each component e.g. would it be better for the flash presentation to be reduced to 5% and more weight given to "commitment and engagement" (10% rather than 5%)? Also consider if record keeping (5%) should be assessed by the supervisor or if the laboratory notebook should be handed in for assessment alongside the report by the other 2 assessors.

### The Progression and Awards Process

20.	Were you provided with guidance relating to the External Examiners role, powers and responsibilities in the examination process?	Y
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22.	Did you receive appropriate programme documentation for your area(s) of responsibility?	Y
23.	Did you receive appropriate module documentation for your area(s) of responsibility?	Y
24.	Did you receive full details of marking criteria applicable to your area(s) of responsibility?	Y
25.	Were you provided with all draft examination papers/assessments?	Y
26.	Was the nature and level of the assessment questions appropriate?	Y
27.	Were suitable arrangements made to consider your comments on assessment questions?	Y
28.	Was sufficient assessed work made available to enable you to have confidence in your evaluation of the standard of student work?	Y
29.	Were the examination scripts clearly marked/annotated?	Y
30.	Was the choice of subjects for final year projects and/or dissertations appropriate?	Y
31.	Was the method and standard of assessment appropriate for the final year projects and/or dissertations?	Y



32.	Were the administrative arrangements satisfactory for the whole process, including the operation of the Progression and Awards Board?	Y
33.	Were you able to attend the Progression and Awards Board meeting?	Y
34.	Were you satisfied with the recommendations of the Progression and Awards Board?	Y
35.	Were you satisfied with the way decisions from the School Special Circumstances meeting were communicated to the Progression and Awards Board?	Y

*Please use this box to provide any additional comments you would like to make on the questions above:*

Examination papers and model answers for semester 1 and semester 2 were sent for scrutiny on separate occasions during the year. These had been produced to a high standard and there was a good balance of questions requiring either problem-solving or more descriptive answers. Again I was particularly impressed with the structure of those papers which included two sections: Section A in which any 7 out of 8 questions should be answered in an examination booklet followed by Section B which contained longer questions. I feel that further consideration should be given to having some element of choice in all examination papers.

All of the marked examination scripts and projects were available and arranged in a logical order for scrutiny during our visit to Leeds. It was apparent that marking was fair and consistent.

A flagship course in chemistry is the MChem with Industrial Experience in which the students spend the 3<sup>rd</sup> year in industry. In general marks are high, in part due to the fact that the course tends to attract excellent students. However, many of these students do less well in their final year.

In contrast, for those who remained in Leeds for all 4 years, a number had a better mark in the final year compared with level 3. There could be many reasons for this. It is important that the assessment at level 3 of the students in industry is robust and also to ensure that they have the required distance learning material to fully equip them for the final year.

The management of the exam process was excellent with paperwork being well organised during our visit; all queries regarding courses, assessment, feedback etc were dealt with extremely efficiently and comprehensively. I attended the Board of Examiners and the recommendations were appropriate.

The cases of candidates with mitigating circumstances were well documented, handled professionally and were wholly appropriate.

#### Other comments

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

I would like to thank everyone involved with the examination process for making each visit to Leeds such a positive experience. In addition, staff should be congratulated for their hard work and enthusiasm in delivering inspirational degree programmes which continue to evolve within a supportive environment for the students.

1<sup>st</sup> December 2017

Dear

**RE: Undergraduate Chemistry Programmes 2016/17**

I am writing on behalf of the School of Chemistry to provide a formal response to your Examiner's report for 2016/17.

I was very pleased to hear your description of our degree programmes as 'inspirational', as well as your complementary comments about the processes and standards.

In line with the University's new procedures, I enclose a copy of your report, together with (in part C) our detailed responses.

- *In the coming year it would be useful to review both the marking criteria and the weighting given to each component* (of the final year IM project)  
We are implementing a review of the marking criteria and weighting for 2018-19, and for the current year we are trialling the marking of the notebook by the expert assessor rather than the supervisor.
- *.. I feel that further consideration should be given to having some element of choice in all examination papers.*  
Over the next two years we are undertaking a review of the number and type of assessments on our programmes and expect one outcome to be a reduction in the total number of assessments including exams: with this it will become more practical to introduce more choice within the papers. As a first step, for the current year we have modified the exam papers for the final year advanced topics module so that these now comprise a section A and section B with more choice and flexibility than before.
- *A flagship course in chemistry is the MChem with Industrial Experience in which the students spend the 3<sup>rd</sup> year in industry. In general marks are high....*  
We will employ new mark sheets this year, designed to prevent high marks being awarded without sufficient justification. We are also reviewing the coursework provided to these students to ensure that it is better aligned with the 'core' material which is studied by level 3 IM students who remain in Leeds.

On a final note, as your tenure as External Examiner comes to an end this session, I would like to take this opportunity once more to extend my thanks for your considered contributions and to wish you well for the future.

Yours sincerely,