

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):	
Programme(s) / Module(s):	Degrees programme administered by the School of Chemistry
Awards (e.g. BA/BSc/MSc etc):	BSc, MChem, taught MSc

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.

Overall the Chemistry programme is extremely well constructed and administered. The research project poster session and 1 minute presentations in final year work extremely well and are a good example of an innovative approach. The final year MChem lecture courses are also well structured with opportunities for choice (elective lecture courses) and part continual 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.

N/A

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

N/A

For Examiners in the first year of appointment

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

For Examiners completing their term of appointment

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

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

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

Please use this box to explain your overall impression of the programme structure, design, aims and intended learning outcomes.

The programme structure is well composed and logical. The balance between lecture courses, practical work, small group teaching and other forms of teaching and learning is good. The aims and ILOs are entirely appropriate for a high quality Chemistry course and compare very favourably with other UK institutions.

13.	Is the influence of research on the curriculum and learning and teaching clear?	Y
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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)

Final year MChem lectures are predominantly driven by contemporary research topics. There are opportunities for literature studies/surveys in cutting edge research areas for both MChem and BSc students and final year research projects allow students to gain first-hand experience in leading research laboratories.

14.	Does the programme form part of an Integrated PhD?	N
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Please comment on the appropriateness of the programme as training for a PhD:

(Research projects in final MChem and BSc years provide valuable experience of independent research and contact with PhD researchers.)

15.	Does the programme include clinical practice components?	N
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Please comment on the learning and assessment of practice components of the curriculum here:

N/A

16.	Is the programme accredited by a Professional or Statutory Regulatory Body (PSRB)?	Y
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Please comment on the value of, and the programme's ability to meet, PSRB requirements here:

The programme is Royal Society of Chemistry (RSC) accredited. RSC accreditation guarantees a high level of teaching standards and is widely respected as a benchmark of teaching quality. RSC accreditation is recognised by both employers and (prospective) students.

Assessment and Feedback

17.	Does the programme design clearly align intended learning outcomes with assessment?	Y
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Please comment on the assessment methods and the appropriateness of these to the ILOs, in particular: 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.

Although the majority of student assessment is *via* written examination and laboratory work, other assessment methods are also employed (such as the submission of a "portfolio" – continual assessment – in final year MChem). Project work and communication of project outputs (reports, posters, talks) are assessed in final years.

The means of assessment

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 examination questions involved a good level of problem solving and consistently tested the understanding of the students. Research projects allowed the opportunity for students to demonstrate independence, creativity and initiative. The performance of the student cohort was strong and the proportion of students achieving 1st and 2:1 class degrees was high.

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

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?	Variable
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:

While most assessed exam scripts and project reports were clearly marked and well annotated with useful comments/feedback, some did not meet the same high standards. Occasionally, marks/comments were illegible or minimal and this made the marking of some scripts difficult to review. A formal marking protocol might be useful, if not already in existence.

The standard of examination questions was very high and were appropriately challenging for students. Occasionally, the provided model answers lacked depth/clarity, but the subsequent responses to my comments were generally complete and satisfactory.

The assessment of research projects was thorough and followed a detailed mark scheme. In a few isolated cases, there was a rather large discrepancy between markers. In these situations, in future, it might be useful to engage a 3rd "adjudicating" assessor and/or ensure that the assessors can meet and discuss their evaluations.

Other comments

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

I would like to comment on the excellent level of support from academic and administrative staff during the entire external examination process throughout the year. Queries were always handled quickly and effectively and the organisation of the various visits was extremely efficient.

1st December 2017

Dear

RE: Undergraduate Chemistry Programmes 201617

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 read that you find the aims and ILOs of our programmes to compare very favourably with other UK institutions. I was also pleased to see your comments on the links to research evident within the programmes.

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

- *While most assessed exam scripts and project reports were clearly marked and well annotated with useful comments/feedback, some did not meet the same high standards.....*
Guidelines have been circulated to examiners previously and will be circulated again with additional emphasis on annotations and making explicit where marks are awarded.
- *The standard of examination questions was very high and were appropriately challenging for students. Occasionally, the provided model answers lacked depth/clarity....*
The importance of clear model answers/marketing schemes has been emphasised to examiners.
- *The assessment of research projects was thorough and followed a detailed mark scheme. In a few isolated cases, there was a rather large discrepancy between markers....*
A moderation panel (comprising the module manager, Heads of Section, DSE and Academic Lead on Assessment) considers all final year MChem project marks. Where there are significant discrepancies among the two independent assessors of the final report we do sometimes use a third, "adjudicating" assessor, other times we ask the assessors to review their evaluations (and whether they reflect the marking criteria) separately. This process works well and is documented.

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

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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 3rd 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.

1st 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 3rd 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,