

Guidance notes are available to support the completion of this Report via the Cardiff University Intranet [here](#) and from ExternalExaminers@cardiff.ac.uk.

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	For completion by External Examiner:		
Name of External Examiner:	Professor Helen Fielding		
Home Institution / Employer of External Examiner:	University College London		
Programme and / or Modules Covered by this Report	Chemistry BSc and Chemistry MChem		
Academic Year / Period Covered by this Report:	2017/18	Date of Report:	23/6/18

Please complete all information in the spaces provided and submit within **six weeks** of the Examining Board.

Please note this form will be published online and should not make any reference to any individual students or members of staff in accordance with the General Data Protection Regulation (2018).

Please extend spaces where necessary.

1. Programme Structure (curriculum design, programme structure and level, methods of teaching and learning)

As I have commented in previous years, the course covers a range of physical and theoretical chemistry, with slightly less emphasis on theoretical chemistry than at UCL, and it reflects the research interests of the physical chemistry staff.

2. Academic Standards (comparability with other UK HEIs, achievement of students, any PSRB requirements)

The proportion of Class I and II.1 degrees is relatively high for the MChem graduating class, as would be expected for an MChem cohort and it is in line with other institutions. The proportion of Class I marks was very low for the BSc graduating class because the majority of top students elect to stay for the MChem. As last year, there were a worryingly large number of students failing to graduate with an honours degree in the BSc class. We do not have such a long tail at UCL and it may be worth investigating this to see how to address it. We discussed this at length last year so did not discuss it again this year, but as I mentioned last year, perhaps requiring students to pass the written exam component of a course (as we do at UCL) in order to pass the course would be one way of getting rid of the very weak students. I also suggest that the amount of coursework is given careful consideration since there seems to be a move in universities towards double marking coursework where it is a substantial fraction of the assessment.

3. The Assessment Process (enabling achievement of aims and learning outcomes; stretch of assessment; comparability of standards between modules of the same level)

I received draft exam papers and model answers for written examinations in November and March and was given plenty of time to read them and prepare comments. I received responses to my comments, from which it was clear that the internal examiners had considered my suggestions

The external examiners' meeting began after lunch on Tuesday 19 June. We were provided with class lists. The students' exam scripts were laid out carefully and we had access to the projects online. It may have been useful to have a list of all project titles in grade order (by degree class or by project mark) to make it easier to find projects in a particular branch of chemistry (for me, physical chemistry).

We paid particular attention to the candidates at the borderlines. All candidates above grade boundaries were awarded the degree appropriate to their mark and those falling 2% below a grade boundary were considered for the higher degree if they had 120 credits at the higher level. Since the examiners work with whole numbers, this means that candidates 2.5% below a grade boundary are considered under this rule, which, as I have commented for the last three years, is quite a long way below a grade boundary (e.g., at UCL, we only consider candidates 1% below a grade boundary).

I was very pleased that our suggestion (previous years) for course organisers to prepare summaries for each course had been implemented. These were compiled thoughtfully and were useful. I would recommend also summarising actions that arise as a result of considering the trends in marks and student responses; this can be valuable in ensuring that areas for improvement are identified and acted upon and for keeping a record of their impact.

We had a meeting with final year MChem and BSc students at 11.00 on Tuesday 21 June. The two students who came to speak with us were very positive about the support they received at the start of their degree course and the early opportunities for building friendship groups within chemistry. They were also positive about support provided throughout their degree in the form of tutorials and workshops and they were complimentary about academics who were clearly committed to teaching. There had some minor criticisms of aspects of organisation and structure, and some lecturers, but they appreciated that with the large numbers of students and courses these were probably unavoidable. Overall, these students conveyed a very positive view of their experiences doing a chemistry degree at Cardiff.

4. **Examination of Master's Dissertations** (sample of dissertations received, appropriateness of marking schemes, standard of internal marking, classification of awards)

We paid close attention to the marking of projects since these make a particularly large contribution to the overall mark. We were confident that good practice was followed, and that the distribution of marks between the different assessment components was similar to other institutions, including UCL, but we felt that there was room for improvement. (1) The two markers for the dissertation should complete independent forms justifying their marks. (2) The BSc dissertation should be marked by two members of staff who are not the supervisor (as for MChem). (3) The supervisor's mark should address specific aspects of the student's performance, e.g. (based on categories of assessment at UCL) engagement and organisation; technical skills, quality of results; independence, initiative and intellectual input. (4) I am not comfortable with the idea that in future years the presentation of the MChem project may be delivered to, and marked by, just two members of staff who will also carry out the viva. The presentation and viva are assessing very different qualities and in my mind it would be preferable (timetable and staff-time permitting) to keep them separate. (5) Consider holding the MChem talks over two days after the exams and ways to encourage good attendance from staff and researchers in the department (perhaps finish with a party for MChem students, projects supervisors and researchers).

At 10.30 on Tuesday 21 June we met with two academic members of the department to discuss changes in the organic chemistry teaching and the assessment of research projects. In terms of the MChem project assessment, it was clear that a great deal of thought has been put into this significant contribution to the students' final degree mark. We discussed the points noted above.

5. Year-on-Year Comments

[Previous External Examiner Reports are available from the Cardiff University Website [here](#).]

I suggested last year that we were provided with reports on each of the exams and I was very pleased that these were provided this year.

Please do ensure that all exams have good quality model answers. I note that this is the case for the majority of courses and questions, there are just a few missing here and there.

6. Preparation for the role of External Examiner (for new External Examiners only) (appropriateness of briefing provided by the programme team and supporting information, visits to School, ability to meet with students, arrangements for accessing work to review)

Look at MChem and BSc project assessment and assess the impact of any changes to assessment procedures.

Look at the impact of considerable coursework component in lower years and the fact that students do not have to pass the written exam component of a course (as we do at UCL) in order to pass the course. Does this have a negative impact on their approach to written exams in later years?

7. Noteworthy Practice and Enhancement (good and innovative practice in learning, teaching and assessment; opportunities for enhancement of learning opportunities)

Having seen the value of providing face-to-face feedback on the interim MChem reports at Cardiff, we introduced a similar process at UCL and it has been well-received by our students.

The problem-solving nature of the computational chemistry questions is something that I have been particularly impressed to see and I have suggested we have similar style questions in our courses at UCL, even though it is not something that I teach.

8. Appointment Overview (for retiring External Examiners only) (significant changes in standards, programme/discipline developments, implementation of recommendations, further areas of work)

The exam coordinator, [REDACTED], did an absolutely fantastic job of coordinating the exam papers and exam results in the unfortunate absence of the Director of Teaching and Learning. The fact that everything ran so smoothly shows how the Department must have worked well as a team to cover the work usually carried out by the Director of Teaching and Learning. This will have impacted research activities and work-life balance and I think it is important for institutions to have procedures in place that enable recruitment of additional staff, albeit on a temporary basis initially, so that the prolonged absence of a member of the team does not have a negative impact on the rest of the department.

9. Annual Report Checklist

Please include appropriate comments within Sections 1-7 above for any answer of 'No'.

		Yes (Y)	No (N)	N/A (N/A)
Programme/Course information				
9.1	Did you receive sufficient information about the Programme and its contents, learning outcomes and assessments?	X		
9.2	Were you asked to comment on any changes to the assessment of the Programme?		X	
Commenting on draft examination question papers				
9.3	Were you asked to approve all examination papers contributing to the final award?	X		
9.4	Were the nature, spread and level of the questions appropriate?	X		
9.5	Were suitable arrangements made to consider your comments?	X		
Examination scripts				
9.6	Did you receive a sufficient number of scripts to be able to assess whether the internal marking and classifications were appropriate and consistent?	X		
9.7	Was the general standard and consistency of marking appropriate?	X		
9.8	Were the scripts marked in such a way as to enable you to see the reasons for the award of given marks?	X		
9.9	Were you satisfied with the standard and consistency of marking applied by the internal examiners?	X		
9.10	In your judgement, did you have the opportunity to examine a sufficient cross-section of candidates' work contributing to the final assessment?	X		
Coursework and practical assessments				
9.11	Was the choice of subjects for coursework and / or practical assessments appropriate?	X		
9.12	Were you afforded access to an appropriate sample of coursework and / or practical assessments?	X		
9.13	Was the method and general standard of assessment appropriate?	X		
9.14	Is sufficient feedback provided to students on their assessed work?	X		
Clinical examinations (if applicable)				
9.15	Were satisfactory arrangements made for the conduct of clinical assessments?			X
Sampling of work				
9.16	Were you afforded sufficient time to consider samples of assessed work?	X		
Examining board meeting				
9.17	Were you able to attend the Examining Board meeting?	X		

9.18	Was the Examining Board conducted properly, in accordance with established procedures and to your satisfaction?	X		
9.19	Cardiff University recognises the productive contribution of External Examiners to the assessment process and, in particular, to the work of the Examining Board. Have you had adequate opportunities to discuss the Programme and any outstanding concerns with the Examining Board or its officers?	X		
Joint examining board meeting (if applicable)				
9.20	Did you attend a Composite Examining Board, i.e. one convened to consider the award of Joint Honours degrees?			X
9.21	If so, were you made aware of the procedures and conventions for the award of Joint Honours degrees?			X
9.22	Was the Composite Examining Board conducted according to its rules?			X

Please return this Report, **in a Microsoft Word format**, by email to:
externalexaminers@cardiff.ac.uk

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