School of Chemistry

Course Review: Unit Self-Evaluation 2015/16

Unit title: CHEM10212	
Unit code: Basic Physical Chemistry	
Unit co-ordinator: Klaus Muller-Dethlefs	
No of students taking unit: 225	
Response Rate: 69/225 (30.67%)	
Other teaching staff: Sven Koehler, Jonathan Agger	
General University Questions	**Mean score**
Overall, I would rate this unit as being excellent	3.7
The feeback that I received on my work was helpful	3.6
This unit was well organised	3.9
The eLearning resources provided in this unit enhanced my learning experience	3.8
I found the tutorials linked to this course useful	4.19

Please summarise the main themes from students' comments:

For all three parts of the course the feedback from the students about the "Basic Physical Chemistry" is very positive.

This year, the students who responded provide much more detailed feedback than before. Generally, students respect the way that basic physical chemistry is presented. I terms of the delivery of the course there is one important theme: they want more time, exercises, workshops etc. for the quantum mechanics.

This is going to happen next academic year with the introduction of quantum mechanics and spectroscopy with a total of 12 hours.

Feedback to comments:

This cohort of students participates much more actively and so their comments are very thoughtful and vivid. This is very much appreciated. The re-organisation for 2016-17 will take on board suggestions made, such as, setting more problem questions, using electronic communication for quick test questions, more workshop like interactions.

Please provide generic feedback on exam performance (eg questions which were particularly well/poorly answered, common mistakes)

Exam performance has been exceptionally good with an average of 70%. There is, however, still a hard core of "refuseniks" in the QM and also the thermodynamics part.

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Course Review: Unit Self-Evaluation 2015/16

Unit title: CHEM10312	
Unit code: Basic Inorganic Chemistry	
Unit co-ordinator: Frank Mair	
No of students taking unit: 219	
Response Rate: 64/219 (29.22%)	
Other teaching staff: Sarah Heath	
General University Questions	**Mean score**
Overall, I would rate this unit as being excellent	3.9
The feeback that I received on my work was helpful	3.9
This unit was well organised	4.1
The eLearning resources provided in this unit enhanced my learning experience	4.1
I found the supporting workshops for this course helpful	4.45
I found the tutorials linked to this course useful	4.39

Please summarise the main themes from students' comments:

There were a lot of positive comments about the quality of teaching, the notes provided and the well organised format of the course. Most respondents liked the use of models and the workshops.

There were some comments about the amount of material being too great and some greater focus being required in the second part of the course.

Feedback to students comments:

Unfortunately no feedback has been received.

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Course Review: Unit Self-Evaluation 2015/16

Unit title: CHEM10412	
Unit code: Organic Chemistry	
Unit co-ordinator: John Gardiner	
No of students taking unit: 224	
Response Rate: 59/224 (26.34%)	
Other teaching staff: David Procter, Igor Larossa	
General University Questions	**Mean score**
Overall, I would rate this unit as being excellent	3.8
The feeback that I received on my work was helpful	3.8
This unit was well organised	4.4
The eLearning resources provided in this unit enhanced my learning experience	4.2
I found the tutorials linked to this course useful	4.02

Please summarise the main themes from students' comments:

Positive themes/comments included*: *Summary – students seemed positive on content, organization and handouts.

• For all 3 parts the lecture notes were very useful All three lectures had clear, well structured slides. All handouts were very useful for the lecture • lectures easy to follow • Structured very well/Very well organized(multiple). Clear what we need to learn for exam (multiple) • online quizzes very useful to revise from / understand mechanisms. • "I love organic chemistry and the lecturers seem nice" (one response!) •Section responses all included positive comments on question responses in lectures or outside of lectures, including material outside the course and email responses.

Comments requesting/requiring changes included: Summary – A few felt content too fast. A number commented on the tutorial content mismatch timing; the organic section again this year had the cycle point where tutorials came at the start of each lecture block*. *Several suggested assessed quizzes/continuous assessment.

• Slowing the speed of lecturing down • Tutorials should not be set for the week before we learn the material • organic tutorials were more lengthy and sometimes covered sections of the course we had not yet covered. • large amount of content • Maybe a workshop related to exam questions • should be *assessed* blackboard quizzes cf. CHEM10101 / continuous assessment element would be useful.

Overall comment: There was a wide spectrum of comments related to difficulty, pace and content. A small number of responses commented on the pace sometimes being *too slow*, too much time going over mechanisms they already knew or could understand from the pre-lecture handouts on line, but a few also (see below) commented on feeling there is too much content and many mechanisms. However, the majority of the comments on individual sections concurred with a majority repeating that content, pace, organization, handouts etc. were positives. However it is clear there is a section of students who find the jump to mechanistic understanding large.

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Course Review: Unit Self-Evaluation 2015/16

Feedback to students comments:

Tutorials timing will be reviewed in response to comments regarding the tutorial question cycle relative to lectures, however with a three week revolving tutorial cycle there will always be one subject which has to go 'first' in the cycle.

Online quizzes were new for this year and feedback will allow consideration of changes for next year to facilitate uptake and effectiveness.

Workshop format material and exam-related practice will be reviewed for addition in 2016-17.

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Course Review: Unit Self-Evaluation 2015/16

Unit title: CHEM10520	
Unit code: Transferable Skills for Chemis	
Unit co-ordinator: David Mills	
No of students taking unit: 217	
Response Rate: 53/217 (24.42%)	
Other teaching staff: Peter Gorry	
General University Questions	**Mean score**
Overall, I would rate this unit as being excellent	3.5
The feedback that I received on my work was helpful	3.25
This unit was well organised	3.98
The eLearning resources provided in this unit enhanced my learning experience	3.79

Please summarise the main themes from students' comments

The survey return rate for the module was very low (24%), but the average ratings correlated reasonably with the school data and all means were higher than the 2015/16 ratings for CHEM10520. We therefore assume that the majority of students were satisfied with the unit and that its objectives appear to have been met.

An even smaller proportion (20 people, 9%) gave details of what they valued about the unit, but their comments were very positive. Those that gave comments were happy with the content of both the transferable skills and maths components. The organisation, variety and amount of content in the module were praised. The supporting maths booklet was given very positive feedback. Respondents also valued how skills gained in this module could be used on other modules and in future endeavours.

26 students (12%) gave details of what they thought could be improved with the unit. The comments can mostly be divided into:

1) A perceived lack of feedback/guidance.

2) Suggested changes to module composition.

3) Issues with self-guided learning of maths/the booklet/lack of lectures.

Feedback to students comments:

This unit received some very positive comments from students, which we appreciate. Some of these comments are in direct opposition to suggestions for improvement, but more time is spent addressing those dissatisfied below. These concerns are divided by the numbers in the previous section.

1)

Six comments concerned the lack of feedback from the amazing molecule essay. Written feedback was already available on Blackboard but some students did not know how to access this. The module convenor therefore sent out an email to students with instructions for how to access this feedback as soon as they were made aware of this problem and this has already been addressed.

A perceived lack of feedback was also mentioned for the other three components. Contact sessions were given for Chemdraw, Excel (2) and Posters with numerous members of staff providing verbal feedback. PASS sessions were also recommended for the Chemdraw exercise. Global feedback for Excel was given as a six page pdf and Chemdraw as a two page pdf with full mark schemes. All posters were double-marked by staff and feedback forms were filled out and are available upon request.

The conclusion here is that feedback comes in many shapes and forms and is not always easily recognised. All direct requests for additional feedback to the module convenor were always given throughout the year - proactivity is the recommended approach for students who want additional feedback.

Some students asked for more guidance on the essay-writing component. If this is run next year we will action the useful suggestions of providing model essays and improving the guidance in the lecture material.

One student was not happy with a perceived lack of consistency in the marking scheme for the amazing molecule essay due to only one member of staff marking it. The module convenor is aware of this specific comment as they checked through the essay and investigated the mark and feedback on the request of the student. Additional feedback was given by the module convenor to the student and the mark was not changed because the internal consistency of marks from a single examiner has to be preferred over multiple markers. The original marker saw over 200 essays and would have been able to internally compare their quality. The convenor only saw an individual case and therefore did not have this context.

2)

The Poster exercise received some feedback for future improvement. The suggestions to change the timings in the poster session to make sure that students spend less time there are good ones and we will action this. We will not change the allocation of randomized groups as working with a diverse selection of people is good preparation for future life in the workplace.

Some students ask for a restructure of material and changes to the timetable and amount of content in set exercises. Major changes are planned for this module next year so this will be actioned.

3)

There were some comments about the maths booklet and issues with self-guided learning of maths. The number of positive comments regarding the maths component (12) were not too

dissimilar from the requests for changes (17), considering the different return rates for these sections. Our reasoning for our approach to the teaching of this component is given here in response to comments.

Some students found the transition from “teaching” to “student-centred learning” difficult, in particular in relation to the quantitative skills (mathematics) component. However, an essential part of a University education is to learn how to learn for yourself, which will help you through the rest of your life.

Some students asked to be able to use calculators in the on-line mathematics examinations. Unfortunately, many modern calculators can perform significant mathematical operations, vectors, statistics, algebra and couldn't be used in the exam. It simply isn't feasible to inspect the capabilities of 226 calculators for three sequential 45 min examinations. In reality the number of questions requiring calculators is small and the scientific mode of the windows calculator has all the necessary functions.

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Course Review: Unit Self-Evaluation 2015/16

Unit title: CHEM10812	
Unit code: Introduction to Forensic & Analytical Chemistry	
Unit co-ordinator: Vasudevan Ramesh	
No of students taking unit: 71	
Response Rate: 12/71 (16.9%)	
Other teaching staff: Nick Lockyer, Robin Pritchard	
General University Questions	**Mean score**
Overall, I would rate this unit as being excellent	3.25
The feeback that I received on my work was helpful	2.9
This unit was well organised	4.1
The eLearning resources provided in this unit enhanced my learning experience	3.8

Please summarise the main themes from students' comments:

The students' comments overall were very positive. The course was generally well received, the lecture material appropriate, delivered with enthusiasm and in context, with additional on-line resources, and the lectures were well delivered.

There were however some concerns over the following:

(i) Some wanted more practical applications to the techniques discussed;
(ii) There were queries about some content in the Blackboard assessed work that was not covered in the lectures.
(iii) Some proposed that there should links to the exam type questions throughout the course

Feedback to comments (including any actions):

We thank the students for their very useful comments; there were 12 feedback forms submitted which was only ~17% of the class.

Overall we are pleased with the student's positive feedback in terms of content of the lectures and delivery style.

We have discussed some of the problems and concerns raised and our responses are as follows:

(i) Regarding more practical applications of the analytical techniques discussed, this will be considered during next year's curriculum review.
(ii) We can allay any student fears who think that the marking in Blackboard is inaccurate. It is not: this is the 8th year that these workshops have been used and all questions have been carefully checked regularly throughout this period.

(iii) We discuss the Blackboard coursework at our annual review and we can confirm that all material taught in the formal lectures is reflected in the workshops. We note that some questions in the workshop require synthesis of the lecture material rather than simple regurgitation.

(iv) With respect to the analytical 'statistics' that is covered, it is absolutely essential than any analytical measurements report precision, accuracy as well as limits of detection and quantification, so this is an important part of the course. We do note that attendance in these lectures was very low (*ca*. 40%) and this may well correlate with the difficulty arising in the workshop by some students.

(v) Regarding links to exam type questions, the revision class held in Week 11 is devoted to going over a past exam paper and students have found this very useful.

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Course Review: Unit Self-Evaluation 2015/16

Unit title: CHEM10600	
Unit code: Practical Chemistry	
Unit co-ordinator: Jenny Slaughter/Jonathan Agger	
No of students taking unit: 217	
Response Rate: 58/217 (26.73%)	
General University Questions	**Mean score**
Overall, I would rate this unit as being excellent	4.29
The feeback that I received on my work was helpful	4.05
This unit was well organised	4.41
The eLearning resources provided in this unit enhanced my learning experience	4.09
Synthesis Lab	
I found the work to be interesting and enjoyable	4.26
The equipment I needed was readily available	4.43
My demonstrator was helpful	4.34
The lab technicians were helpful	4.38
Measurements Lab	
I found the work to be interesting and enjoyable	4.12
The equipment I needed was readily available	4.43
My demonstrator was helpful	4.17
The lab technicians were helpful	4.4

Please summarise the main themes from students' comments

Firstly, we'd like to thank the students who responded and gave us useful feedback on the course; it's been a pleasure to work with them and we hope the learning provides them with a good background for the coming years.

Secondly, we'd like to ensure the lab feedback form represents the changes being made to the laboratories – namely that the distinction between the two labs is not made in the coming years – instead students should be encouraged to pick out specific experiments/demonstrators etc. where they might wish to do so.

Students' concerns centred on:

Inconsistencies in demonstrators, for example demonstrator not knowing the experiment, technique or method well enough to provide useful information;

Space in the synthesis labs, specifically issues where more than 2 people are working in a fumehood, thereby having to wait for vacuum lines etc.;

Report writing across both laboratories, including concerns that training was not given on

how to do this and the amount of time report writing took;

Feedback, for questions in labs as well as for reports, specifically information on how to improve;

The 2 different systems across the 2 laboratories.

Students' commented positively on:

Online pre-labs,

Information provided in the synthesis Blackboard site,

Electronic uploading of reports;

Electronic upload of marks on a weekly basis.

Please provide feedback to students comments (to be published):

Firstly, we'd like to thank those who responded and gave us useful feedback on the course; it's been a pleasure to work with you and we hope the learning provides you with a good background for the coming years.

Your concerns centred on:

Inconsistencies in demonstrators, for example demonstrator not knowing the experiment, technique or method well enough to provide useful information;

Space in the synthesis labs, specifically issues where more than 2 people are working in a fumehood, thereby having to wait for vacuum lines etc.;

Report writing across both laboratories, including concerns that training was not given on how to do this and the amount of time report writing took;

Feedback, for questions in labs as well as for reports, specifically information on how to improve;

The 2 different systems across the 2 laboratories.

You commented positively on:

Online pre-labs,

Information provided in the Synthesis lab Blackboard site,

Electronic uploading of reports;

Electronic upload of marks on a weekly basis.

I'd like to take this opportunity to explain a few changes we're implementing for next year, some of which will impact you, as they extend to year 2 labs also.

The laboratories will no longer be two separate entities, so that the assessment structures and marking schemes will have consistency across both laboratories. Likewise, online marks, attendance and feedback recording will be implemented across the course, so you'll be able to track your progress on a weekly basis.

I agree that more than two students per fumehood is not reasonable for you to be work

safely or comfortably. In response to this I have put a rota in place, whereby you will be spread more evenly throughout the laboratories. This will ensure you only ever work in pairs in a fumehood.

Likewise, this new system will mean that each experiment will have a dedicated set of demonstrators. This means that the demonstrators will focus on the experiment and know it inside out; you will have "experts" in the technique and method with you at all times.

Demonstrators will have a training in the experiment before the term begins and will carry out a full risk assessment, the practical itself and the assessment required – so they will have more in-depth understanding of exactly what you need to know and what you need to do to be successful.

With regard to feedback, part of the demonstrators training will focus on how to provide you with good, useful feedback both in the lab and for written work.

The above changes will impact you directly, as they will apply in the second year labs at the same time as updating the first year labs. I am interested to know what you think so please contact me at any point next year if you wish to make comments (jenny.slaughter@manchetser.ac.uk).

There are significant changes being made to the first year lab course and whilst not everything will impact you directly, I believe it's important to share these changes with you.

A team of academics & technicians is investing time this summer implementing greater online provision of information; this will cover techniques, safety and report writing and will be available to everyone.

We're also creating report writing activities, to help first years understand what a lab report is, what it should contain, how to research, how to use data and how to structure writing. Whilst we won't be able to utilise all of these modules in the second year, we may implement some of the material, to help you in your future report writing.

We're also creating new experiments to develop a broader set of skills, including computational chemistry as well as investigative skills, into the first year lab.

Regarding feedback, we're implementing a rigorous set of criteria for demonstrators and will be sharing mark schemes with students, so that demonstrators give useful feedback and students can relate the feedback to their performance.

If you wish to take