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School of Chemistry

3<sup>rd</sup> Year Mini Projects

# Appendix 1: Questionnaire 1, used to gather student feedback before the preparation workshops.

#### Ethical Approval used for all 3 questionnaires:

Dear student

Name:

We are asking you to fill in the questionnaire today as a way of helping us to understand your experience of assessment and feedback.

This evaluation is designed by the University's Assessment Adviser (Carmen Tomas) who will also collect and analyse the data you provide. All the data you provide us with will be anonymised in a central department (LRLR). Reports and insights will be shared with the School of Chemistry and also there might be further dissemination of outputs with other internal and external audiences (papers, presentations etc). However, your identity will remain anonymous.

Your participation is NOT compulsory. Taking part will NOT affect your studies in any way. We will be really grateful if you decide voluntarily to provide answers to the questions below. However, if at any point you wish to withdraw your participation you may do so by contacting Dr Carmen Tomas (carmen.tomas@nottingham.ac.uk). Equally you may be in touch to ask any questions about this evaluation.

By signing below you agree that you understand:

- the purpose of the evaluation you are taking part in
- the uses and treatment of the data
- that you are taking part on a voluntary basis
- that you can withdraw your participation at any point.

Signature:	
Your course (please circle): BSc / MSci	

#### **BEFORE THE SESSION TODAY**

1.	Please explain v	your ideas, at this stage	e, of what is required for a	in excellent project in this module

2.	Please rate how nervous	vou fool	about the	project
۷.	Please rate flow flervous	you reer	about the	project

Very nervous	1	2	3	4	5	Not nervous at all

3. Completing the project seems...

Very difficult	1	2	3	4	5	Very easy

4. Please rate how confident you feel about your understanding of what is required in the project

5. Please rate how confident you feel about your ability to assess your skills required for project-work

6. Please rate your ability to identify specific actions to develop your skills in relation to project work

Not confident at all	1	2	3	4	5	Very confident	

7. I have read the rubric for the project

Yes No Was unaware that it was available

### Appendix 2: Questionnaire 2, used to gather student feedback after the preparation workshops.

#### Ethical Approval as shown in appendix 1.

#### **AFTER THE SESSION TODAY**

1. Please explain your ideas, at this stage, of what is required for an excellent project in this module

2. Please rate how nervous you feel about the project

Very nervous	1	2	3	4	5	Not nervous at all

3. Completing the project seems...

Very difficult	1	2	3	4	5	Very easy

4. Please rate how confident you feel about your understanding of what is required in the project

Not confident at all	1	2	3	4	5	Very confident
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5. Please rate how confident you feel about your ability to assess your skills required for project-work

6.	Please rate your ability	/ to ide	entify s	pecific	action	ns to d	evelop your skills in relatio	on to project work
	Not confident at all	1	2	3	4	5	Very confident	

7. Have you had any specific ideas on what actions you might take to develop your project work?

YES NO

If YES, please describe these briefly:

8. Please rate how valuable the activity discussing skills and learning outcomes of the module was (at session on the 2<sup>nd</sup> of October)

Not applicable [Please select this if you did not attend]

**OR** select a rating below

Not valuable   1   2   3   4   5   Very valuable
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9. Please rate how valuable yesterday's activity evaluating and assessing exemplars of previous project reports was

Not applicable [Please select this if you did not attend]

**OR** select a rating below

Not valuable	1	2	3	4	5	Very valuable
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10. Would you like to take part in future sessions similar to these ones?

YES NO

Please use the space below to make any other comments

#### Appendix 3: Questionnaire 3, used to gather student feedback at the end of the module.

Ethical Approval as shown in appendix 1.

#### BEARING IN MIND YOUR EXPERIENCE DURING THIS 3RD YEAR PROJECT MODULE

1. Please explain your ideas, at this stage, of what is required for an excellent project

2. How satisfied are you with your performance in this module?

No	t very satisfied	1	2	3	4	5	Very satisfied

Please provide a justification for your rating

3. How effectively do you think you managed your time during the project module this year?

Not very effectively	1	2	3	4	5	Ver	y effectively		ì
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Please provide a justification for your rating

4. Reflecting on the start of year, please rate how good you think you were at project work?

Not very good	1	2	3	4	5	Excellent
1111111111111	_	_	-		-	

#### And now?

Not very good	1	2	3	4	5	Excellent
, 0						

Please explain reasons for your ratings

#### HELP US IMPROVE HOW WE SUPPORT STUDENTS

5. Overall, how well supported did you feel at different stages of the module?

Workshops in weeks 2&3: Not well supported			1	2	3	4	5 Very well supported
First project:	Not well supported	1	2	3	4	. 5	5 Very well supported
Second project:	Not well supported	1	2	3	} 4	1	5 Very well supported

Please provide specific reasons for your ratings – specially to highlight particular stages where

6. Regarding the assessment rubric used in this project module, please rate

a. how clear (i.e. easy to understand) you found it

a. 1101	w cieai (i.e. eas	y to un	ucista	iliu, yo	u ioui	iu it	
Not ver	y clear	1	2	3	4	5	Very clear

b. how easy you found it to relate the rubric to your work

Not easy to relate	1	2	3	4	5	Really easy to relate			
the second the second s									

c. how useful was it in helping understand the requirements to do well in the module

Not useful

1 2 3 4 5 Very useful

7. Please rate how valuable different activities or information have been for your own learning and ability to progress in this module

Activity	Rate value of activity for your own learning (1 not very valuable – 5 very valuable; n/a if you do not recall or did not take part)	Please describe reasons for your rating
Self-assessment (with report submission Dec18 & Apr19 )	n/a Not valuable 1 2 3 4 5 Very valuable	
Tutor assessment (after project report submission Jan 19)	n/a Not valuable 1 2 3 4 5 Very valuable	
Reviewing feedback session (Feb 19 & May19)	n/a Not valuable 1 2 3 4 5 Very valuable	
Action planning session (Feb 19)	n/a Not valuable 1 2 3 4 5 Very valuable	
Rubric /information	n/a Not valuable 1 2 3 4 5 Very valuable	
Other (please give details):	n/a Not valuable 1 2 3 4 5 Very valuable	

8. From your experience, please tell us which activities (e.g. in-class, in-lab, independent; information provided) to

9. Please tell us about *new activities* we should consider introducing or additional ways that you wished you had received support to facilitate your learning.

10. Please rate how nervous you feel about the 4th year independent project Very nervous 3 5 Not nervous at all 11. Completing the 4<sup>th</sup> year project seems... Very difficult 1 2 3 4 5 Very easy 12. Please rate how confident you feel about your understanding of what is required in the 4th year project Not confident at all 1 2 3 4 5 Very confident 13. Please rate how confident you feel about your ability to assess your skills required for projectwork in the 4th year Not confident at all 1 2 3 4 5 Very confident 14. Please rate your ability to identify required actions to develop your skills in relation to projectwork for the 4th year 2 Not confident at all 3 4 5 Very confident 15. Following from the 3<sup>rd</sup> year project module, do you have specific ideas on what actions you might take to develop your independent project work in the 4th year? YES NO If YES, please describe these briefly: 16. Are there specific things that you will approach differently to the 3<sup>rd</sup> year projects? 17. Please use the space below to tell us about anything else that you feel is important we should know about and we have not asked 18. Would you be willing to take part in a focus group before the end of term? (£10 amazon vouchers will be offered for attendance)

If YES please leave us your email address:

# Appendix 4: Assessment Rubric for Projects

		0	1	Achievement 2	Levels 3	4		
Module Learning Outcomes	Criteria	Fail	Adequate	Good	Excellent	Exceptional	Assessment point	Weightin
Team working & Time Management	Plan & devise experimental work for each laboratory session to make best us of the time available, foundade problem solving stills to adapt plans).		often required in the laboratory sessions: •Sometimes able to apply problem solving skills to adapt a	experimental plan exceptionally well based on live results: •Highly efficient set up and execution of laboratory	*Able to apply problem solving skills to adapt a detailed experimental plan exceptionally well based on live results: *Highly efficient set up and execution of laboratory experiments:	defined objectives and goals.	In lab (notrobook & demonstrators)	
	Communication & team working		At least three of the following spayl;  *Proaction is realing receiving/discussions with the research approximate receiving/discussions with the research approximation;  *Woll prepared for investings;  *Woll prepared for investings;  *Woll prepared for investings;  *Wormontaries ago of computations:  *Demonstrates good computations:  *Demonstrates pool interestings within the team:  *B appear thre:  *Shows ago of initiative.	At least five of the following apply:  **Oracles** is neiting meeting/discussions with the research suprovine in the research suprovine **Swell prepared for meetings* **Swell prepared for meetings* **Swellowarders good communication: **Demonstrates good communication: **Demonstrates good respectation and influence: **Sometimes contributes tasks within the teem: **Is acquarter. **Is acquarter. **Shows good initiative.	At least six of the following apply:  *Proactive in seating meetingsidiscussions with the  *Proactive in seating meetingsidiscussions with the  *Proactive in seating content of the seating s	All of the following apply:  Very proximal in reading meetings/discussions with the research supervision in reading meetings.  Very your proposed for meetings.  Very youl proposed for meetings.  Internatives exceptional consumulation.  Demonstrates exceptional importation and influence.  Coordinates tasks with the team.  Na supportine.  Values proposition.	Students to submit self-assessment (including a mark) with report.	5%
Safety & Good Lab Practice To	Identification of hazards, relevant precautions & disposal to ensure safe experimental work		Intervention is required constantly during the laboratory sessions from laboratory demonstrators to ensure: -Hazards are accurately identified and relevant precoutions are well highlighted: -Appropriate methods of disposal are stated as necessary:	Regular intervention is required from laboratory demonstrators to ensure:	demonstrators to ensure:  "Hazards are accurately identified and relevant prezautions are well highlighted:  "Appropriate methods of disposal are stated as necessary:	No intervention is required from laboratory demonstrators to ensure:	In lab (notebook & demonstrators)	5%
	Use of Good Chemistry Laboratory Practice (BCUF)		One of the following applies (as appropriate):  "Classwere and explainment is handled correctly:  "Laborators space is kept very well to peniesel, tidy and safe:  "Chemicals are always handled appropriately and returned after use:  "All communal equipment is cleaned and ready to use immediately following use.	Two of the following applies (as appropriate):  **Columnare and equipment is handled correctly:  **Leborators space is kept very well organized. Usly and laste:  **Chemicals are always handled appropriately and returned after use:  **All communal equipment is cleaned and ready to use immediately following use.	ofter use:	All of the following apply (as appropriate):  *Laboratory and resolvenent is handled connectly:  *Laboratory space is kept very well organised, bidy and safe:  *Chemicals are always handled appropriately and returned other use:  *All communal equipment is clinated and ready to use immediately following use.	in lab (notebook & demonstrators)	5%
Technical competence	Accurately record experimental procedures & observations (lab notes)		data is not always thorough and precise making it hard to reproduce any given experiment without reference to external material. Omissions of experimental information	observations, results and COSIII I data to the extent that an given experiment could be reproduced without reference to	If Thorough (but not exceptional), next and precise recording yell experimental observations, results and COSIIII data to the extent that any given experiment could be reproduced exactly without reference to any external material. No omissions of experimental information were made.	experimental observations, results and COSIIII data to the extent that any given experiment could be reproduced	Notebook assessed by academics after lab finishes.	5%
	Quality experimental work		consistent and may be judged of sufficient quality to either support or refute a given experimental hypothesis with some confidence is presented. Responsibility is not always taken for the acquisition of experimental data and spectra	consistent and may be judged of sufficient quality to eithe support or refuse a given experimental hypothesis will confidence is presented. Responsibility for the acquisition of experimental data and spectra in the laboratory is take and most relevant data for the experimental section of the	- Experimental work, which is both internally self-consistent or and may be judged of self-licint quality to either support or reduce a given experimental. Psychosis with high- roand-force is presented. Reponsibility for the acquisition of departmental fast and spect is in the isoborately tables are and all relevant data for the experimental section of the report is collected in good time before leaving the leboratory.	and may be judged of sufficient quality to either support or refute a given experimental hypothesis with very high confidence is presented. Responsibility for the acquisition of experimental data and spectra in the laboratory is taken and all relevant data for the experimental section of the	Post-lab - Written report	10%
Knowledge, understanding & critical thinking	Breadth of Innovirage of the background research area of the project.		chemistry and concept of the research project. Lack of clarity of why methods/techniques/approaches have been	Two of the following apply:  A wave yider and only summary of the background chemistry that enabling the current state-of-the-est and structures the consistence of the research protection.  **See an accordance and pain floation of why consistence of the consistence of why the consistence of the research protection.  **See an accordance of pain floation of why consistence or protect when the consistence of the consistence or protection of the consistence or protection.  **One of those statements above for the demonstrated.	All of the following statements spelly although one is a decemberated to an designate, but not except in any standard. A very clear and concise summary of the landar condi- ctioning vibra enables the corner state of cheens and of the statement of the control of the statement of the "Cheen articulation on justification" of the received production of the statement of the statement of the statement of piece work from other present, and other coveral statement of the statement of the coveral statement of the statement of piece work from other present.	<ul> <li>A very clear and condite summary of the background chemistry that explains the current state-of-the-art and anticulates the concept of the research project:</li> <li>Clear articulation and justification of why methods/bechniques/approaches have been taken based on literature or prior work from other groups:</li> </ul>	Pest lab Written report	5%
	Understanding of the methodologies / techniques / tools relaxent to the project (n.g. synthetic routes, software, equipment, spectroscopic methods).		Demonstrates an understanding of some of the methodologies / techniques / tools which are reinvant to the project e.g. synthetic routes, software, equipment, spectroscopic methods.	Demonstrates a clear understanding of the majority of the methodologies / trobigues / tools which are relevant to the project e.g. synthetic routes, software, equipment, spectroscopic methods.	Demonstrates a very clear understanding of the majority of the methodologies / techniques / tools which are relevant to the project e.g. synthetic roates, software, equipment, spectroscopic methods.	methodologies / techniques / tools which are relevant to	Post lab - Written report	5%
	Ability to describe relevant results		Data is not maintend closely or annovalend in the central of the research liquides. It is not possible based on the annovalend in the central	Two of the following apply: "wire details of personal processing apply arranged early operating clicuscion in which data are clearly and correctly restorabled and citically seammed in the correct of the research hopolybraic in the correct of the research hopolybraic in the correct of the correct of provinces and the correct of provinces are considered and will be pieced in the correct of provinces which shape provinces and restoration of the correct of provinces. Convinces or generate will be a missioned on the basis set disagreement and the guideless of these results with be dearly understood and choose of these results with be dearly understood and choose of	clearly and correctly nationalised and critically examined in the context of the research hypothesis: *Key results (successes and failures) will be analysed and rationalised and will be placed in the context of previous work with appropriate references to the primary literature.	<ul> <li>Very detailed, penetrating discussion in which data are clearly and correctly rationalised and critically examined in the context of the research hypothesis:</li> </ul>	Past-lab - Written report	5%
Technical writing & presentation skills	Report is well structured.		One of the following apply:  "The report in well discussioned with the connect use of increase and advancations in line with the journal template. It broadpoint the time benefith healing do ordered are alligned.  "The benefith of the report has been excellently judged, only more ensures of excess or breeling."	Two of the following apply:  "The report is well structured with the correct use of incutions and authorities is like with the journal template.  "Introductor the best sensition having and connect are alloyed.  "The largetion of the report has been excellently judged, only relative connections of brevity.	standard.  The report is well structured with the correct use of sections and subsections in line with the journal template.	All of the following apply:  *The report is well structured with the correct use of sections and subsections in line with the journal template.  *throughout the text the section heading and content are aligned.  *The length of the report has been excellently judged, only	Post-lab - Witten report	5%
	Visual elements (graphs, figures, tables): range of types of visual elements, quality and adequate presentation (labels, captions)		None used.	inconsistent numbering and format. Visuals do not relate to the written content. Use of inappropriate visual elements.	retrivant. There might be an overrollance on the use of one mode of presentation.	Visual elements are accurately and consistently numbered, labelled and referred to in the text.  A range of different modes of representation are used to support the nerrative.	Post lab. Written report	5%
	Nomenclature, schemes, equations, figures. Style (use of technical vocabulary)		Many technical errors in chemical nomenclature, schemes, equations and figures.  Failure to use any appropriate style	Resonably good use of correct chemical nomendature. Mainly chemically correct Schrews(Faustinon/Figures used as appropriate which include a few mistakes. In the main the language is not technical.	appropriate.  An attempt to use technical language has been made but this may be lacking in some sections.	Seamless use of correct chemical normenolature. Chemically correct Scherescy/Squations/Figures used as appropriate. The report is presented using technical language that is consistent in the entire report.	Post-lab - Written report	5%
	Experimental data reported in journal style		The procedum is overly imptly or websion and a third pairty would need reference to other material to repeat the experiment. The experimental information is not all presented in the format of the Royal Society of Chemistry Journals. Quantities of respents and measurements are not always expressed in the most appropriate units and using a consistent number of align finant figures.	•Exceptional and properly formatted description of the	repartmental procedure:  I halp ancoders is concise foot overly lengthy or verticole.  BUT will allow a third party to repeat the experiment, without inference to any other material.  "The experimental information is presented in the format of the Royal Society of Chemistry Journals:  "Quantities of reagents and measurements are always represented in the most appropriate units and using a	All of the following apply:  **Exceptional and prompt formatted description of the impermental procedure:  **Interpretation of the procedure formatted processing for the procedure formatted processing formatted for the processing formatted format	Poss-lab - Written report	10%
	Dagree of consistency of the formatting of the document (font size, references list, use of bold/fealit, layout, specing, etc.)		Formatting of the document is of a poor standard and incorolistens.	Formatting of the document is generally consistent and appropriate for a science report.	the specified RSC format has been adopted completely. The	Pormatting of the document is consistent and the specified RSC format has been adopted completely. The report is presented in a professional manner with no errors.  The intended meaning is clear throughout. There are no or	Post-lab - Written report	5%
	Accuracy of the grammer, structure of sentences and division of text into paragraphs		Grammar errors make the report unreadable.  No recognizable sentence structure.  Typo errors make the report unreadable.	The intended meaning is not always clear. There may be many grammatical errors in the work. Sentences are structured poorly and there is no logical division of text into paragraphs. There may be many typos in most sections.	There has been an attempt to logically order and structure sentrences which has been successful in parts. There are a small number of typos.	very few grammatical errors.  Sentences are structured to a good standard and there is legic to the way in which the text has been divided into paragraphs.  There are no or very few typos in the document.	Post lab. Written report	5%
	Use of in text citations to support development of argument		primary literature (Note primary literature = peer-reviewed journals and does NOT extend to websites). References not formatted in the format required for an RSC publication (listed at the and and referenced in the text as appropriate).	primary literature (Note primary literature = peer-reviewed journals and does NOT extend to websites). References may not be formatted in the format required for an RSC publication (listed at the end and referenced in the text as appropriate).	References are formatted in the format required for an RSC publication (listed at the end and referenced in the text as	Text supported very well by appropriate ditations to the primary literature (Note primary literature = peer-reviewed journals and does NOT extend to websites). References are formatted in the format required for an RSC	Post lab - Written report	5%
	Presentation of experimental results to a small audience using PowerPoint (or similar)		Adequate amount of technical material which isn't always		Perfect amount of technical material which is appropriately detailed and flows well. Delivery - excellent articulation, pace and timing. Visual aids are well balanced (text / figures), text and		Most-lab - oral presentation	10%

### **Appendix 5: Feedback Reflection Proforma**

Most sign	ificant feedback comments				
	Positive		What are your thoughts on these comments, do you agree, or disagree?		
1					
2					
3					
	Critical		What are your thoughts on these comments, do you agree, or disagree?		
1					
2					
3					
Compare your self-assessment with the staff assessment and reflect on any differences below.					
	Student Self-Assessment Staff Assessn		ent	Reflections	
1					
2					
3					

After reviewing your feedback is there anything you feel you need to discuss with your assessor?

If so compose your questions below.

If you understand the feedback you've received there is no obligation to meet with your

supervisor.				
	Your question	Comments after discussing this with your supervisor.		
1				
2				
3				

# Appendix 6: Action Planning Proforma

	What can I do to build on the positive feedback I received?		
1			
2			
3			
What can I do to develop my work in the areas where I received some criticisms?			
1			
2			
3			
Your own e	valuation - anything you would add?		
Your own e	valuation - the one thing I want to keep doing in future is		
Your own evaluation - the one thing I want to change or improve in the future is			