

EXTERNAL EXAMINER ANNUAL REPORT FORM

Guidance notes are available to support the completion of this Report and are available at <http://learning.cf.ac.uk/quality/review/external-examiners/reports/>.

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|--|--|-----------------|----------|
| Name of External Examiner: | Dr Graziella Iossa | | |
| Home Institution / Employer of External Examiner: | School of Life Sciences, University of Lincoln | | |
| Programme and / or Subjects Covered by this Report | MRes in Biosciences and MRes in Stem Cell Neurobiology (Stage I) | | |
| Academic Year / Period Covered by this Report: | 2018/2019 | Date of Report: | 22/01/19 |

For completion by External Examiner in the spaces provided. Please extend spaces where necessary. **Please note this Form will be published online and should not make any reference to any individual students or members of staff.**

1. Programme Structure

The MRes in Biosciences and the MRes in Stem Cell Neurobiology are comprised of two stages, I and II. This interim report relates to Stage I, the taught component of the MRes. Stage I is comprised of two modules shared across both MRes, BIT010 Data Handling in Statistics & Bioinformatics and BIT011 Key Skills in Research Practice, and a third module which depends on the MRes chosen by the student, BIT002 Research Techniques in Biosciences (MRes in Biosciences) or BIT018 Stem Cell Techniques in Neuroscience (MRes in Stem Cell Neurobiology). Both MRes programmes are structured to give key skills to students: grant proposal writing, science communication, time management and bioethics are some of the key skills the students will gain to equip them for a career in scientific research and, of course, for Stage II. Within the modules the range of assessments, lectures and learning aims are appropriate and well-thought, although the students find the step up from undergraduate to postgraduate self-directed study challenging.

Portfolios in BIT002 included a DNA barcoding practical, essays on ecology, gene function, stem cell and neuroscience and a news and views article on CRISPR/Cas9 editing. The DNA barcoding practical was well received by students and this was also reflected in their average mark for this element. More practicals would be welcome in this Research Techniques module and a topic such as ecology, would be an obvious choice with the possibility to introduce a field practical with ecological techniques. I met the students in a 1-hour open session and then six 20-minute individual interviews. Given the varied background of undergraduate degrees (which span the whole life sciences) that the students have, many students found the variety of topics on BIT002 challenging and, on the opposite, those with a specific subject knowledge, found the coverage of some topics too superficial. Lecture material and further reading would be beneficial for students whose first degree is in a different discipline. Given the more tailored nature of the MRes in Stem Cell Neurobiology, it might be possible to explore future MRes programmes in more restricted fields, such as

Global Change Biology, Ecology or Immunity and Infection, depending on the specific research strands of the School of Biosciences. Of course, this might be constrained by time, space and resources available and I also understand that the broad coverage of various subject areas is one of the key appealing points of the MRes in Biosciences, so this might not be compatible with the aim of the programme. Many students found the intensity of assessment challenging with much of the coursework and portfolios elements to be submitted on the mid-December deadline. The students asked and were granted, an extension of some coursework to early January and some mentioned working throughout the Christmas holiday to meet the deadline. Time management and, in particular, self-directed study expected at postgraduate level proved challenging for this cohort of students. However, exploring the possibility to anticipate some deadlines earlier on in Stage I would allow for iterative learning. At present most of the feedback is received after Stage I has been completed.

The Data Handling in Statistics & Bioinformatics BIT010 gives strong foundations in statistics to the students, which will be invaluable on the remainder of this course as they embark on their research project and in their future careers. It includes two coursework elements of statistics and two of bioinformatics. The students found this module very useful. In particular the material available ahead of the beginning of the module, such as the additional worked examples, were praised by the students and is an example of good practice. The students also praised the support available on the bioinformatics element but would welcome additional background material ahead of the sessions to familiarise themselves with the Linux environment. The bioinformatics mini-project in the style of a scientific journal, focusing specifically on the methodology and statistics, was well received by the students. This provides them with an excellent opportunity to practice scientific writing in a journal style. However, the Stem Cell Neurobiology MRes students felt that they could not relate to the ecological dataset provided for the statistics mini project and would like stem cell datasets available. However, this might be a deliberate choice by the course coordinator to ensure an equal level of challenge for the coursework for all students.

BIT011 comprises a portfolio of four abstracts, a bioethics essay, a lay article for public engagement (gair rhydd), the critical evaluation of a scientific article, as well as a poster and an oral presentation. In addition, the students must prepare a grant proposal which has dual benefit. Firstly, it ensures proper consideration of the structure, formulation of ideas/hypotheses and planning of their research projects in Stage II (as well as risk assessments and ethical approval). It is also internally assessed by a second marker potentially identifying feasibility issues and ensuring a level of depth consistent with MRes expectations of the research project. Supervisor input into the preparation of the grant proposal was variable. Students who embarked on the programme with a project in mind tended to be more satisfied than those who did not have a specific project from the outset. Those latter students also felt they would have benefitted from further input. Guidance on expectation of meetings and review of drafts for supervisors is provided but it is up to individual supervisors to adhere to these. If the two markers on the grant proposal differed 10% or more in their marks, a third marker was involved, which is an example of best practice. At the External Examiner Board, it was agreed that the final mark would be taken as a mean of all three marks. This module was widely praised and enjoyed by all students and it is, in my opinion, an example of best practice. In particular, several students commented specifically on the helpfulness of learning to write a grant proposal and in addition, how this gave them a new skill and an advantage at PhD interviews they had attended.

BIT018 is a new module specific to the MRes in Stem Cell and Neurobiology. The module includes six essays on a range of stem cell neurobiology subjects, from neurodevelopment to epigenetics, as well as a practical report and a journal club. Every assignment on this module was double marked, which is an excellent example of best practice, although it might prove demanding for the module organiser as the number of students on this programme increases. The students enjoyed this module and also welcomed the practical laboratory experience. However, they felt that the additional contact hours generated from the laboratory practice put them at disadvantage compared to the students enrolled on the MRes in Biosciences in terms of time available to submit the coursework for BT010 (see Section 3).

The students found Stage I demanding and challenging, and several found that the workload prevented them to produce work to the best of their abilities. However, overall their experience was positive and the workload, for most, was manageable, especially after some the coursework submission deadlines were extended to early January. The students spoke positively about the support they receive from the course organisers and the administration team, although they would welcome greater communication among staff. I understand that historically the students always find Stage I more demanding. Everyone I spoke to was looking forward to starting their research project in Stage II.

2. Academic Standards

I was granted access to Learning Central and was able to review all four Stage I modules, including all materials required to assess standards. Academic standards for Stage I appear comparable to those at my own institution. Student performance on BIT002 was very good with an average mark of 66%. In the time provided, I could not examine all work provided, however a sample of the coursework from across the spectrum from pass-fail, merit and distinction showed that performance was appropriate for level 7 of study. Similarly, the average mark for BIT010 was good and for those students who need to resubmit their mini-projects, there is appropriate capping of marks in case of overall module failure. Student performance for BIT011 was also good with an average module mark of 66%. Students performance on BIT018 (a new module) was not so strong although the small number of students may skew results. The level of progression to Stage II is very good with every student progressing except one, and one candidate withdrawing to pursue a PhD but achieving a postgraduate certificate. Some students need to resubmit coursework (BIT010 and BIT018) in order to progress, however this is within the normal range. Overall two thirds of students will be able to achieve a distinction grade in Stage II. Academic standards for the MRes are high and comparable to my own institution.

3. The Assessment Process

The annotation provided on the majority of coursework was helpful in clarifying the mark assigned to the students. For the statistics mini-projects and the grant proposal the marking scheme provided a clear benchmark for assessment and is again an example of good practice. In the few instances where marks differed by more than 10%, a third marker was assigned and this also an example of best practice. In the work I reviewed, I identified two instances in which the work submitted on Turnitin had a high similarity score and upon checking, it appeared that the students had lifted some text directly from other sources. However, I am satisfied that there is a strict procedure in place and these cases will be passed on to an external board that considers Unfair Practice. The new module BIT018 consisted of intensive laboratory work and teaching and the course organisers, alerted by the students, had realised that the combined workload put the MRes in Stem Cell Neurobiology students under considerable pressure. This had negatively affected the outcome of the BIT010 statistics and bioinformatics mini-projects. The course organiser and the module leader had felt that to compensate for this, 'scaling' would be applied equally to all MRes in Stem Cell Neurobiology students taking the BIT010 module. Scaling totalled approximately 1 week lost of the 11 weeks allocated to BIT010 (9%) and therefore amounted

to 9% of the mark achieved. Given that this is a new module on the newly established MRes in Stem Cell Neurobiology, the 'scaling' was unanimously agreed as an exceptional circumstance at the Examination Board meeting on 17th January 2019. Overall the Examination Board I attended was conducted professionally and gave thorough attention to every matter related to the assessment process, the marks and student attainment.

4. Year-on-Year Comments

NA

5. Preparation / Induction Activity (for new External Examiners only)

The course organisers and the administration staff were extremely helpful in answering my questions and putting me in touch with my external examiner colleague ahead of my first visit. The opportunity to receive my colleague's guidance as I take on my first external examiner role was invaluable. I received the external examiners handbook upon acceptance of the role and I was able to view reports made by previous colleagues. I was provided with all information required to assess the degree and academic standards, including the handbook that the students receive, summary sheets for marked coursework in hard copy (all modules) and electronically (via Learning Central and ZIP files). I felt the process went smoothly thanks to the professionalism and dedication of both the administration team and the course organisers.

6. Noteworthy Practice and Enhancement

The MRes in Biosciences and in Stem Cell Neurobiology contains many examples of good practice. Noteworthy examples are the integration of scientific writing but also science communication for the lay public, principles of bioethics and grant proposal writing, which many students found helpful in giving them an advantage during interviews for future studies. The course and module organisers place significant effort in shaping Stage I as an invaluable preparation for the research project in Stage II. The electronic feedback provided on many assignments in Turnitin is also an example of best practice and if the students were to receive the feedback earlier on would, this would allow for iterative learning. I received minutes of previous Internal Exam Board meetings and was able to communicate with my external examiner colleague ahead of my visit. This was very helpful in advance of commencing my role. In my meetings with the students, the group and individual discussions were overall positive, however they felt the need for improved communication, especially around timetabling and deadlines, and generally felt Stage I very intense. In my opinion the course organisers and administration team take great care in putting together a programme appropriate to Masters level whilst considering the students' perspective.

7. Comments on the Examination of Master's Dissertations (External Examiners for postgraduate Master's Programmes only, see also 9.23-9.29 below)

NA

Signed



Dated 22 January 2019

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8. Appointment Overview (for retiring External Examiners only)

Not applicable.

9. Annual Report Checklist

Please include appropriate comments within Sections 1-8 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? | Y | | |
| 9.2 | Were you asked to comment on any changes to the assessment of the Programme? | | N | |
| Draft Examination Question Papers | | | | |
| 9.3 | Were you asked to approve all examination papers contributing to the final award? | | N | |
| 9.4 | Were the nature, spread and level of the questions appropriate? | | | N/A |
| 9.5 | Were suitable arrangements made to consider your comments? | | | N/A |
| Marking 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? | | | N/A |
| 9.7 | Was the general standard and consistency of marking appropriate? | | | N/A |
| 9.8 | Were the scripts marked in such a way as to enable you to see the reasons for the award of given marks? | | | N/A |
| 9.9 | Were you satisfied with the standard and consistency of marking applied by the internal examiners? | | | N/A |
| 9.10 | In your judgement, did you have the opportunity to examine a sufficient cross-section of candidates' work contributing to the final assessment? | | | N/A |
| Coursework and Practical Assessments | | | | |
| 9.11 | Was the choice of subjects for coursework and / or practical assessments appropriate? | Y | | |
| 9.12 | Were you afforded access to an appropriate sample of coursework and / or practical assessments? | Y | | |
| 9.13 | Was the method and general standard of assessment appropriate? | Y | | |
| 9.14 | Is sufficient feedback provided to students on their assessed work? | Y | | |
| Clinical Examinations (if applicable) | | | | |
| 9.15 | Were satisfactory arrangements made for the conduct of clinical assessments? | | | N/A |
| Sampling of Work | | | | |
| 9.16 | Were you afforded sufficient time to consider samples of assessed work? | Y | | |
| Examining Board Meeting | | | | |
| 9.17 | Were you able to attend the Examining Board meeting? | Y | | |
| 9.18 | Was the Examining Board conducted properly, in accordance with established procedures and to your satisfaction? | Y | | |
| 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? | Y | | |
| Joint Examining Board Meeting (if applicable) | | | | |

| | | Yes (Y) | No (N) | N/A (N/A) |
|--|---|------------|-----------|--------------|
| 9.20 | Did you attend a Composite Examining Board, i.e. one convened to consider the award of Joint Honours degrees? | | | N/A |
| 9.21 | If so, were you made aware of the procedures and conventions for the award of Joint Honours degrees? | | | N/A |
| 9.22 | Was the Composite Examining Board conducted according to its rules? | | | N/A |
| Examination of Master's Dissertations (if applicable) | | | | N/A |
| 9.23 | Did you receive a sufficient number of Dissertations to be able to assess whether the internal marking and classifications were appropriate and consistent? | | | N/A |
| 9.24 | Was the sample in accordance with the University's sampling guidelines (guidelines provided below)? | | | N/A |
| 9.25 | Were you satisfied with the standard and consistency of marking applied by the Internal Examiners? | | | N/A |
| 9.26 | Were you able to attend the Master's Degree (Dissertation) Stage Examining Board? | | | N/A |
| 9.27 | If so, was the Examining Board conducted properly and in accordance with established procedures? | | | N/A |
| 9.28 | Were the schemes for marking and classification correctly applied? | | | N/A |
| 9.29 | Were the standards of the awards recommended appropriate? | | | N/A |

Please return this Report, preferably in a Microsoft Word format, by email to:

ExternalExaminers@cf.ac.uk

Your fee and expenses claim form and receipts, should be sent electronically to the above email address or in hard copy to:

External Examiners, Registry, Cardiff University, McKenzie House, 30-36 Newport Road, Cardiff, CF24 0DE

SAMPLING OF TAUGHT MASTER'S DISSERTATIONS BY EXTERNAL EXAMINERS

External Examiners shall be expected to see prescribed numbers and ranges of Dissertations, but not to mark them, on the following basis:

At least 10% of Dissertations for a postgraduate taught Master's Programme, or a minimum of 10 (whichever is the higher figure) must be seen by the External Examiner(s). Where the total number is less than 10, all Dissertations must be seen by the External Examiner(s) #.

Dissertations seen by External Examiners should include examples from across the whole range of achievement (i.e. Pass with Distinction, Pass, Fail).

External Examiners will retain the right to see other Dissertations at random.

Where more than one External Examiner is appointed on a Programme, at least 10% of Dissertations, or a minimum of 10 (whichever is the higher figure), should be seen collectively by the External Examiners.