



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/>.

Name of External Examiner:	Professor Mark Stevens		
Home Institution / Employer of External Examiner:	The Roslin Institute & Royal (Dick) School of Veterinary Studies, University of Edinburgh.		
Programme and / or Subjects Covered by this Report	Master of Research in Biosciences (Stage I) <i>MRes in Biosciences</i>		
Academic Year / Period Covered by this Report:	2016/2017	Date of Report:	29.1.2017

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

I continue to be impressed by Stage I of the MRes in Biosciences, which instils valuable knowledge and skills that prepare the candidates well for the research phase of the course and future careers. Stage I comprises three modules: Research Techniques in Biosciences (BIT002), Data Handling & Statistics (BIT010) and Key Skills in Research Practice (BIT011). Within these, diverse teaching and assessment methods are used and learning objectives are logical and clear. Though taught material was not examined, there appears to be an appropriate balance of lectures and self-directed learning, as well as exposure to practical methods in gene cloning and imaging.

Portfolios for BIT002 included a write-up of mutagenesis and cloning experiments, a News & Views article on gene editing and four essays spanning analysis of gene function, neuroscience, stem cells and ecology. With the replacement of the module leader, an opportunity exists to revisit the content of this module and whether the techniques taught continue to be up-to-date and suited to the intake. For example, with over half the cohort in this academic year progressing to ecology projects increased provision of methods for field studies may be appropriate. The essay questions appeared to work best when candidates were asked to devise a strategy to apply the techniques taught to a problem, rather than simply review an area of science. In this regard the essay to describe the impact of climate change on a species or ecosystem might be stronger if prefaced with how such impact could be studied and quantified. The diversity of topics covered by BIT002 is naturally challenging for candidates that specialised in a narrow discipline at undergraduate level, but also gives a wider perspective of research in the biosciences and embeds lasting skills in independent review of literature and scientific writing. Some candidates considered that a high level of background knowledge was assumed in some areas and it was evident that they value access to the lecturers for revision sessions and guidance on further reading. An exercise in critical review of manuscripts &/or good practice in manuscript writing would be welcome in BIT002 (or the key skills module) and it was pleasing to learn that the course directors plan this in future. As coursework is submitted as a portfolio, feedback cannot be provided for every assignment as it is completed over time. Some of the candidates would have appreciated such

feedback to understand the standards expected and iteratively learn, though I appreciate this is constrained by the administrative and marking effort required.

BIT010 embeds key skills in statistical analysis and bioinformatics that will be of lasting benefit to those pursuing research careers. It is welcome that candidates must pass both the module and mini-projects in statistics and bioinformatics in order to progress to Stage II. In contrast to the 2015/16 session, no issues were raised by the students in relation to the content or quality of statistics teaching this year. A relatively high proportion this year will have to re-submit their mini-projects to achieve a pass mark (8/24). The reasons for this were unclear but were apparently not related to the choice of two possible datasets for analysis. Some candidates considered that the assumed level of background knowledge in bioinformatics was high and that it was unreasonable to research and apply methods that had not been taught in order to access the highest marks. Such views are not unexpected for students moving between taught courses with prescribed content onto an MRes with more self-directed learning and research-led problems. A number of candidates suggested that a break in the two-week block of intensive teaching in BIT010 in a windowless room would be welcome.

BIT011 involves preparation of a grant proposal related to the project to be undertaken in Stage II, as well as preparation of abstracts, a poster and lay article for public engagement. The grant proposal is an excellent initiative as it requires review of relevant literature, formulation of ideas, hypotheses and objectives, selection of experimental approaches, and planning (including time management, contingency plans, and where appropriate risk assessments and ethical review). The exercise will be hugely valuable to those pursuing research careers and provides an excellent opportunity for students to refine plans with their supervisors. I welcome the independent assessment of the feasibility of proposed projects and whether they pose intellectual and technical challenges at a level consistent with expectations of MRes study. In addition, where variance of 10% or greater in marks for the grant proposal occurred, dialogue is now triggered and reasons for moderation of marks are documented (8/24 instances in 2016/17). Where agreement on moderation could not be reached, a third marker was assigned (a further 4/24 instances this year) and the mean of the two closest marks taken. The number of proposals requiring discussion indicates the value of the exercise, which I believe provides helpful feedback to students and guides expectations of the MRes dissertation. Though allocation of marks to different sections of the proposal were clear, detailed criteria for award of marks at varying levels were absent and future guidance to markers akin to that provided for dissertations would be welcome. In discussions with students and following scrutiny of supervisor remarks on the input they provided, it was clear that an inconsistent level of discussion of project outlines and feedback on the grant proposal is provided. Some received a related grant proposal as a guide and iterative feedback on drafts, whereas others were given more independence in study design and writing, albeit supported by discussion if required. The course organisers may wish to provide guidance to supervisors as to the level of engagement expected at this stage, though one accepts it is difficult to standardise. Such guidance could be delivered with other expectations related to the level of supervision to be provided in the research phase, in particular where day-to-day supervision of activities may be delegated.

I had the opportunity to meet the MRes in Biosciences cohort for 2016/17 for an hour to discuss their experience of Stage I, and subsequently met with nine candidates selected by the course directors for 20 minute individual interviews. The candidates evidently find Stage I intense and challenging, but overall their experience was very positive and the workload, for most, was manageable. Invariably, candidates this year spoke positively about the support they receive from the course directors.

2. Academic Standards

I reviewed the research portfolios for the three modules of Stage I and was provided with all materials required to make a detailed assessment of standards. Overall standards for Stage I

appear to be comparable to the previous year I examined (mean stage I mark 62.9% compared to 64.3% in 2015/16), though with marginally fewer candidates attaining Distinction (1/24 compared to 3/21 at this stage in 2015/16). A substantial portion of the cohort can still access Merit and Distinction grades following the dissertation, having achieved >55% or >65% for Stage I respectively. Academic standards are comparable with another Masters degree I have examined, and at my own institution. The difference in quality of work in Pass, Merit and Distinction categories was clear, and almost always supported by detailed annotation on the paper portfolio or electronic assignments in TurnItIn.

3. The Assessment Process

Clear criteria for allocation of marks were provided, with a detailed rubric in some cases and there was welcome evidence of moderation for key exercises such as the grant proposal. In my view, the course is administered very professionally. The appointment of a dedicated Secretary for the programme is welcome and it is evident that she is performing very effectively, with accurate transcription of marks from assignments into spreadsheets and collation of data in all instances I examined. Robust procedures are in place for identifying Unfair Practice, in particular by analysis of similarity in assignments submitted via TurnItIn. In the very rare instances where plagiarism is suspected, a clear robust process exists. Extenuating circumstances were identified for 6 candidates in Stage I and extensions to deadlines were provided. The Examination Board meeting was conducted professionally and in accordance with established procedures.

4. Year-on-Year Comments

Performance in this academic year is broadly comparable to that in the 2015/16 session at this stage. A relatively high proportion (8/24) will be required to re-submit the BIT010 statistics mini-project in order to progress but with appropriate support I do not anticipate that this will be a barrier for the candidates, many of whom attained the required pass mark for the module overall.

I am grateful to the course organisers for addressing remarks I made in the 2015/16 session related to marking of grant proposals and independent scrutiny of the feasibility of projects and the technical and intellectual challenges they pose. I am fully satisfied with the institutional response to my Annual Report for 2015/16, dated 14 April 2016.

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

I was provided with an updated version of the course handbook. Administration related to my visit was highly efficient and appreciated.

6. Noteworthy Practice and Enhancement

As noted above, there are very many examples of good practice and I applaud the course and module organisers for the significant effort expended in Stage I. Invariably the students spoke positively about the effort expended by the course directors and their ability to swiftly resolve any problems identified. It was helpful to receive minutes of the Internal Exam Board meeting that preceded my visit, which noted issues raised by module coordinators and suggested appropriate actions. It was evident from this and the conduct of module organisers throughout that they care deeply about the quality of teaching, standards and student experience.

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

I was asked to evaluate a resubmitted MRes dissertation that did not attain a pass mark in 2015/16. As the laboratory phase had been completed, no new data were included and the revisions were primarily to the introduction and associated references. One mark was unchanged at 52%, while that of the second marker increased from 48% to 52% (capped at 50% overall at the Examination Board meeting). While improvements were acknowledged by the markers, both identified deficiencies in the dissertation, which to my eyes contained limited original data (spanning only 3 figures) and contained just over a page of discussion. While I record my surprise that the thesis was considered of an acceptable standard for the award of MRes compared to other theses I have examined at this level (both at Cardiff University in 2015/16 and at other organisations) I am satisfied that due process and University regulations were followed. The dissertation is not in my area of expertise and it was evaluated by academics with the knowledge required to make critical judgements about the volume and quality of work presented, and the intellectual and technical challenges associated with the project. I defer to their judgement and am content for the degree to be awarded as University regulations appeared to have been followed faithfully and in full. The course organisers had not identified any issues of concern at the mid-term review or been informed of progress below expectations. It would be timely to remind MRes supervisors of the need to alert the course organisers to potential issues with student performance at an early stage, and of the need to provide clear instructions to supervisors on the levels of effort and attainment expected of students at level 7 study. In respect of the latter, clarification from the organisers &/or University on the extent of original work required for MRes Stage II may be helpful. Though markers were asked to comment on 'achievement' in the research project, this did not contribute directly to marks and consideration could be given to whether this should be accounted for in future.

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		

		Yes (Y)	No (N)	N/A (N/A)
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?			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)				
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.