

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:	Dr Frances Laughton		
Home Institution / Employer of External Examiner:	University of Bath		
Programme and / or Modules Covered by this Report	All BSc and MPhys degree programmes in PHYSX		
Academic Year / Period Covered by this Report:	2018-19	Date of Report:	9 th September 2019

Please complete all information in the spaces provided and submit within **six weeks** of the Examining Board (the dissertation stage Examining Board in the case of postgraduate Master's programmes).

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)

The programme structures are well designed, with an appropriate range of teaching and learning activities and assessments that progressively develop students' knowledge and understanding of physics and mathematics, as well as their skills, competences and attributes (both discipline-specific and more generally). There is an appropriate distinction between the BSc and MPhys programmes, and a good level of student choice, particularly with the range of optional modules offered in Years 3 and 4. The (necessarily small) amount of module choice in Years 1 and 2 is also commendable, and in particular that students are provided with the opportunity to broaden their horizons by studying a free standing module.

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

Again as for last year, the academic standards are appropriate to the level of the awards and are consistent with the threshold and typical levels for bachelor's and integrated master's degrees described within the subject benchmark statement for Physics, Astronomy and Astrophysics; they are also consistent with Institute of

Physics accreditation requirements. The programmes are of a high academic standard, and are well defined, with appropriate and clearly defined learning outcomes and assessment criteria laid out for each module. The examination papers generally cover the module content well, and provide an appropriate level of challenge; the standards demonstrated by the students are also appropriate, and are in line with what I would expect for a UK Physics department. There are also good project opportunities for students, with a wide range of types of project offered.

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

In general the assessments are appropriately academically demanding. Good care and attention is generally given to the setting and moderation of exam papers, along with the marking, checking and 'green penning' processes. There are also good project assessment processes, with evidence of careful marking and moderation, including generally clear justifications for the marks awarded.

The written examinations were set at an appropriate level, and generally match the learning outcomes well. The secure online system for accessing draft examination papers and solutions works well, and an appropriate length of time was provided for me to make comments. The departmental exams officer was very helpful in communicating and consulting with [REDACTED] and me about the schedule for our review of the draft papers, and I welcome the new system of providing a log file for each exam, collating the information about all stages of the moderation process, including the responses from the Module Organisers to our comments.

The School is continuing to diversify its assessment methods, to reduce the overall number of coursework assessments, and to move towards more synoptic assessments; this is to be commended.

I continue to have some concerns, however, about the comparability of standards between modules of the same level. As I have commented in previous reports, while there is inevitably some variation in the level of difficulty between exams for different modules, I still feel that this variation is too great between some of the optional modules; in my view, the exams for a small number of modules are too easy. How can you be confident that students are not being unfairly advantaged or disadvantaged by their choice of optional modules? Data is provided on the average mark for each module (these average marks varied considerably between different options), and for the fraction of students who failed each module (this also varied considerably). This data alone is not sufficient, however, as it may be that a module has a very high average mark because it was taken by a cohort of particularly able students, rather than because the exam paper was unduly easy. A better indication of whether or not the marks attained by the cohort on that module is in line with their performance on other comparable modules would be provided if scatterplots of students' marks for a particular module against their average marks for their other modules were generated for consideration by the Board of Examiners. This is why I have previously recommended, and continue to recommend, that it would be useful for the University to consider whether a Business Objects report (or similar) could usefully be created to enable these plots to be generated directly by the School from the assessment data held on the central data system.

Some issues emerged during our review of the final year projects around the consistency of practice across all staff in the procedures for identifying and dealing with potential cases of plagiarism. While I have no reason to believe that there are any substantive grounds for concern, I would encourage the School to ensure that all staff are familiar with the agreed procedures.

A more minor suggestion: given that all “Section A”-style exam questions are compulsory, is there any need for them to all be worth the same number of marks, and/or for them to be equally easy? Might it be useful to relax this stipulation, so that setters could include a wider range of questions in these sections?

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

[Where possible please complete this section following the dissertation examining board determining the final award.]

5. Year-on-Year Comments

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

- 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)

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

I would like to commend the School’s staff again for their care and dedication, particularly in light of the greatly increased student numbers. It is particularly impressive that student satisfaction and retention rates have remained high despite these increases. The changes to assessment also seem to have been successful, and have helped some of the weaker students in particular, while still retaining appropriate standards.

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

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?	Y		
9.2	Were you asked to comment on any changes to the assessment of the Programme?	Y		
Commenting on draft examination question papers				
9.3	Were you asked to approve all examination papers contributing to the final award?	Y		
9.4	Were the nature, spread and level of the questions appropriate?	Y		
9.5	Were suitable arrangements made to consider your comments?	Y		
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?	Y		
9.7	Was the general standard and consistency of marking appropriate?	Y		
9.8	Were the scripts marked in such a way as to enable you to see the reasons for the award of given marks?	Y		
9.9	Were you satisfied with the standard and consistency of marking applied by the internal examiners?	Y		
9.10	In your judgement, did you have the opportunity to examine a sufficient cross-section of candidates' work contributing to the final assessment?	Y		
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?	?		
Clinical examinations (if applicable)				N/A
9.15	Were satisfactory arrangements made for the conduct of clinical assessments?			
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)				N/A
9.20	Did you attend a Composite Examining Board, i.e. one convened to consider the award of Joint Honours degrees?			
9.21	If so, were you made aware of the procedures and conventions for the award of Joint Honours degrees?			
9.22	Was the Composite Examining Board conducted according to its rules?			

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

externalexaminers@cardiff.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