

Guidance notes are available to support the completion of this Report via the Cardiff University Intranet [here](#) and from [ExternalExaminers@cardiff.ac.uk](mailto:ExternalExaminers@cardiff.ac.uk).

**Cardiff University**

McKenzie House  
30-36 Newport Road  
Cardiff CF24 0DE  
Wales UK

Tel please see below  
Fax +44(0)29 2087 4130

[www.cardiff.ac.uk](http://www.cardiff.ac.uk)

**Prifysgol Caerdydd**

Tŷ McKenzie  
30-36 Heol Casnewydd  
Caerdydd CF24 0DE  
Cymru Y Deyrnas Unedig

Ffôn gweler isod  
Ffacs +44(0)29 2087 4130

[www.caerdydd.ac.uk](http://www.caerdydd.ac.uk)

	For completion by External Examiner:		
Name of External Examiner:	Prof. Stephen Serjeant		
Home Institution / Employer of External Examiner:	The Open University		
Programme and / or Modules Covered by this Report	MSc Data Intensive Physics / Data Intensive Astrophysics		
Academic Year / Period Covered by this Report:	2018/18	Date of Report:	18 Sept 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)

I am happy with the curriculum design, which has bedded down nicely. The programme structure is carefully thought out and at an appropriate level. I am pleased to see that it now has a more comprehensive treatment of machine learning.

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

The academic standards are comparable with the best in the sector. I have met the students and am convinced they continue to be of extremely high quality and are highly motivated. Many go on to doctoral programmes and other high achievements. I hope that after 2019/20 the students will be permitted to take a wider range of modules, benefitting from the commendable practice of recording lectures, though the immediate need for this has reduced since the taught material on machine learning has been greatly improved. Could the option to take other modules using recordings of lectures be mentioned to the students at induction stage please, and not left until later?

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

The modules are shared with other degree programmes, so prior approval of examination papers was not necessary.

The exam marking was exemplary, carefully double-marked. The exam questions are of a high standard and comparable with the best in the sector. I did not see evidence for a difference in standards between modules of the same level; MSc students are required to achieve higher marks than final-year undergraduates in modules that are in common between MSc and undergraduate degrees.

**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.]*

I was given the full set of project reports to review. The marking scheme is objective and carefully considered, as well as consistently applied to a high standard. The classifications of the awards (of which project marks are a part) are fair and comparable in standard with the best in the sector.

**5. Year-on-Year Comments**

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

I am grateful once again for the excellent support from the School in arranging access to examination materials and dissertations, helping with logistics, and arranging for opportunities for external examiners to meet the students separately from the academics.

In this meeting, the students suggested it would be helpful for the University to supply a "spider diagram" of module inter-dependencies. The students felt that access to module notes and recordings from previous years would be particularly helpful, and I realise that this could involve technical work to implement in e.g. Panopto/Blackboard, but it should surely be soluble. The students cited ██████'s excellent and clear teaching of cosmology. There was a reported lack of clarity over the set textbook for Magnetism and Superconductivity, so I would advise defining this consistently earlier on this year. All in all though, my impression is that the students continue to be very happy with the quality of the degree programmes, and they are once again a strongly motivated and highly talented cohort.

I am pleased to see that the workload in the Autumn term has been looked at carefully (e.g. not scheduling work in week 5), and the students are already no longer describing this aspect of the workload as their leading concern. Through the LabView and Python provision, ██████ are doing well to balance the learning needs across the cohort, who have a wide range of incoming skills.

The MSc programmes are a great success story with a very healthy and growing recruitment. The University recognised this and moved the group to more suitable

accommodation, which [REDACTED] worked very hard to make ready in time for the current cohort. However, they are victims of their success in that the new space is already at capacity. Please could the University Estates department consider options for increasing the physical space available.

**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)

Not applicable

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

I am impressed with the innovative teaching methods through the grant application activity and student activity of assessment of a previous student's work. The widespread practice of recording lectures in Cardiff is also very good practice. I am pleased that my recommendation of an Informal Tutor (who is outside the line management chain) has been fully implemented. It's appreciated by the students and though this "backstop" seems to be rarely used, that's a good sign.

I continue to be particularly impressed with the open-door policy maintained by [REDACTED], which is greatly valued by the students and contributes enormously to the academic success of the programme and to its growth in recruitment. I am also delighted to see that [REDACTED] has been appointed a National Teaching Fellow, which is a well-deserved national recognition of his efforts. Both [REDACTED] are extremely dedicated and hard working. However, the MSc programme's recruitment success has created a great deal of additional workload for [REDACTED]. They have tried to mitigate this by including PhD students in the project supervision by having the PhD students chair meetings of "teams" of project students, but this is not enough, and it is not a scalable solution. [REDACTED] are clearly heavily overloaded. The teaching income that [REDACTED] each generate per unit teaching-time must surely be far greater than that of most academics, especially given the very healthy international recruitment. International students clearly and demonstrably take more work to teach on these MSc programmes because of language barriers and occasional cultural differences, but even though the income to the University is much higher, this extra effort does not appear to be being recognised. Please consider what the University would do if either of [REDACTED] were incapacitated by some accident. How would you write a job description for a (hopefully temporary) replacement? It would surely look like a description of two people's work. **There must be an excellent business case for an additional 100%-teaching academic staff member to support this growing cohort of MSc students, even if it's only a fixed-term appointment.**

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

Not applicable

## 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)
<b>Programme/Course information</b>				
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		
<b>Commenting on draft examination question papers</b>				
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?	Y		
9.5	Were suitable arrangements made to consider your comments?			N/A
<b>Examination scripts</b>				
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		
<b>Coursework and practical assessments</b>				
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		
<b>Clinical examinations (if applicable)</b>				
9.15	Were satisfactory arrangements made for the conduct of clinical assessments?			N/A
<b>Sampling of work</b>				
9.16	Were you afforded sufficient time to consider samples of assessed work?	Y		
<b>Examining board meeting</b>				
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		
<b>Joint examining board meeting (if applicable)</b>				
9.20	Did you attend a Composite Examining Board, i.e. one convened to consider the award of Joint Honours degrees?			<b>N/A</b>
9.21	If so, were you made aware of the procedures and conventions for the award of Joint Honours degrees?			<b>N/A</b>
9.22	Was the Composite Examining Board conducted according to its rules?			<b>N/A</b>

Please return this Report, **in a Microsoft Word format**, by email to:  
[externalexaminers@cardiff.ac.uk](mailto: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