Guidance notes are available to support the completion of this Report via the Cardiff University Intranet here and from ExternalExaminers@cardiff.ac.uk.

For completion by External Examiner:			
Name of External Examiner:	Martyn Dade-Robertson		
Home Institution / Employer of External Examiner:	Newcastle University		
Programme and / or Modules Covered by this Report	**MSc Computational Methods in Architecture**		
Academic Year / Period Covered by this Report:	2018/19	Date of Report:	11/12/19

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 structure is clear and well defined. I particularly welcome the 'creative rigour' approach taken by the tutors. In my experience many computational programmes in architecture will focus on the use of software tools, however, I welcome that this programme focuses on core coding and more fundamental aspects of computation which will stand the students in very good stead.

The interdisciplinary nature of the course is also a strong area and adds to the sense of rigour with engineers and computer scientists involved in the teaching. The students did express some dissatisfaction with the relevance of some of the modules taught externally to the Architecture School and expressed the wish to see clearer connections between some of the more fundamental programming skills and design applications. This was not a firm view of all the students but might be something to consider – especially as the cohort grows and there may be a greater ability range (the general ability of this small cohort seems very high). The students most valued the degree of one-to-one tuition received and the general accessibility of the tutors. Across the programme there are a good range of different and well-chosen teaching methods.

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

I am satisfied that the course meets the requirements of UK HEIs and is certainly comparable in terms of content and level of attainment with national and international programmes of the same level.

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

The assessment seem well balanced in terms of providing stretch. It should be noted this small cohort (I looked at the work of 4 students) were mostly very strong so it will be interesting to see how, as the programme goes, the assessments are adapted to allow less able students to pass. From what I could tell there was also consistency of expectations across different modules – although there were some limitations in what I was able to see (referred to below).

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

I was able to look at all the dissertations with feedback. All three were of a consistent quality but were also diverse in their topics. There showed a considerable technical ambition in both software and hardware and were well documented. There are clear links between the content of the projects and the course, but the students have been given a high degree of creative freedom. Because of the small cohort it was difficult to ascertain a baseline and the criteria-based assessments and the double making procedure seemed to be robust. As an outsider to the programme, however, I was not sure that all three projects submitted to me were of 70+ standard. In particular I felt that some of the documentation lacked evidence of contextual knowledge – i.e. how their project fitted into current design and or research thinking with citations missing and some structural inconsistencies. I will monitor this in future years but it would also be good to have a clear statement of the brief for the final project and an indication of the level of tutoring for these projects.

5. **Year-on-Year Comments**
[Previous External Examiner Reports are available from the Cardiff University Website here.]

NA

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)

I very much enjoyed my visit to Cardiff and I was shown considerable hospitality. I was satisfied that all documentation could be made available to me and I especially welcomed the opportunity to talk to students. There are however, some changes I would seek to make to the arrangements for the examination in future. For various technical reasons I was unable to access the course documentation in advance of the visit and time was constrained during the visit so I don't feel that I am able to scrutinise as much as I would like. While I have ticked yes for question 9.2, 9.16, it is "*with reservations*".

For future years I would benefit from being given a Dropbox or similar folder at least one week in advance of the visit containing:
- The briefing documents for each module with a description of the assessment and teaching methods.
- Samples of the submitted work (representing high middle and low marks or the entire cohort where numbers are below 5) including the work itself and any written feedback given to the student.
- The briefing document for the final project and a description of the final project structure including contact time with the tutors.
- I would also welcome the inclusion of course materials – including samples of PowerPoint etc. although this would not need to be exhaustive.

Being able to prepare in advance would allow me to be much more targeted on the examination day and I would feel more able to fulfil my role.

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

I think there are a number of areas of exemplary practice which I have mentioned above but are worth summarising here:

- The technical rigor of the course is impressive with students attaining high levels in core technical competences related to architectural computing.
- The interdisciplinary nature of the programme means that the students are able to engage with fields outside architecture and this was highlighted by the students themselves as a key strength.
- The availability and access to key staff is also highlighted by the students.
- Feedback on the project proposals was extensive and detailed and all students mentioned this as an exemplary example of written feedback.
- Space made available to the students seemed very good, as did access to technical resources – although it should be noted that this might become an issue as the cohort grows. The programme director should be mindful that this will be a 'hungry' course in terms of technical support and space.

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?	x		
9.2	Were you asked to comment on any changes to the assessment of the Programme?			x
Commenting on draft examination question papers				
9.3	Were you asked to approve all examination papers contributing to the final award?			x
9.4	Were the nature, spread and level of the questions appropriate?			x
9.5	Were suitable arrangements made to consider your comments?			x
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?			x
9.7	Was the general standard and consistency of marking appropriate?			x
9.8	Were the scripts marked in such a way as to enable you to see the reasons for the award of given marks?			x
9.9	Were you satisfied with the standard and consistency of marking applied by the internal examiners?			x
9.10	In your judgement, did you have the opportunity to examine a sufficient cross-section of candidates' work contributing to the final assessment?			x
Coursework and practical assessments				
9.11	Was the choice of subjects for coursework and / or practical assessments appropriate?	x		
9.12	Were you afforded access to an appropriate sample of coursework and / or practical assessments?	x		
9.13	Was the method and general standard of assessment appropriate?	x		
9.14	Is sufficient feedback provided to students on their assessed work?	x		
Clinical examinations (if applicable)				
9.15	Were satisfactory arrangements made for the conduct of clinical assessments?			x
Sampling of work				
9.16	Were you afforded sufficient time to consider samples of assessed work?	x		
Examining board meeting				
9.17	Were you able to attend the Examining Board meeting?	x		

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9.18	Was the Examining Board conducted properly, in accordance with established procedures and to your satisfaction?	**x**		
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?	**x**		
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?			**x**
9.21	If so, were you made aware of the procedures and conventions for the award of Joint Honours degrees?			**x**
9.22	Was the Composite Examining Board conducted according to its rules?			**x**

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

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