

Final Probation Report

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1 Introduction

This document aims to evidence my accomplishments during the probationary period of my lectureship:

- Section 2 will discuss my participation in PCUTL. Due to the volume my module 3 submission, I will keep this section brief.
- Section 3 will not only list my publications and grant income but also discuss my future plans for research.
- Section 4 will demonstrate my contribution to innovation and engagement as well as a detailing my administrative responsibilities.
- Section 5 will demonstrate my competency with the Teaching and Research grade 7 profile.

2 Teaching

2.1 PCUTL

I started PCUTL (HMT007) in [FIND DATE HERE] and completed the 3rd module on [FIND DATE HERE]. I fully engaged with this process obtaining my certificate with distinction.

My module 3 portfolio is attached but due to the page count of that submission (FIND PAGE COUNT) is summarised below:

- Rigorous statistical analysis of a student survey investigating student perceptions of formative assessment. A manuscript is in preparation to submit to a pedagogical journal.
- Detailed review and critique of active learning techniques including Inquiry Based Learning and Flipped Classrooms;
- Reflection within my subject area on the defining properties of a modern mathematician which should include not only entrepreneurial skills but also programming skills;
- Rigorous and justified implementation of a new module (MA1003) taught using an innovative and modern pedagogy (a flipped classroom delivered to a class of 160 students);
- Peer review by multiple Cardiff University colleagues, international peers and engagement with higher education academy.

The following summarises my present teaching philosophy which is a direct result of the PCUTL process:

Aim to provide learning opportunities to students in a constructivist framework, using technology to enhance a scaffolded active student centred experience.

It might be of interest to note that recent research (appearing after I completed PCUTL) has in fact shown the evidence for better student learning in active learning pedagogies as opposed to a classic lecture based approach [1].

2.2 Teaching

As well as going through the PCUTL process I have been involved in various other teaching activities as summarised in Table 1.

Course Title	Credits	Level	Involvement
Computing for Mathematics	20	First Year BSc.	Designed, Lead and Delivered
OR 2	10	Final Year BSc.	Designed and Delivered half of course
OR Methods	12	MSc.	Designed and Delivered 4/11 of course
Advanced Statistical Packages	10	MSc.	Designed, Lead and Delivered
Introduction to Object Oriented Programming	NA	MSc.	Designed, Lead and Delivered 2 day hackathon
Introduction to L ^A T _E X	NA	BSc. and MMath	Designed, Lead and Delivered half day course

Table 1: Summary of involvement in taught courses

Most of the above courses are designed to be delivered in a student centred approach which is a direct implication of my growth as an educator through the PCUTL process.

This teaching has taken a large quantity of time in terms of preparation, the exact amount of time is difficult at this stage to approximate but the above corresponds to a mean of around 7 hours of contact time a week.

Future teaching plans involve the creation of an extra curricular 2 hour weekly session during which students will be able to further explore aspect of programming applied to mathematics: Code Club.

2.3 Research Students

Throughout my tenure as a lecturer I have been heavily involved in the supervision of research students as various levels:

- BSc. Final Year Project ();

3 Research and Scholarship

3.1 Publications

3.2 Grant Funding

3.3 Future Plans

4 Contribution to Innovation and Engagement

4.1 Innovation and Engagement

- School visits
- ORiS
- University visits
- Social media: (Twitter, G+, YouTube, Blog)
- Media
- HMC2 and Jenny.
- Open Source Software contributions.

4.2 Administration

- Research committee;
- IT committee;
- General administration.

5 Additional Requirements

6 Conclusion

References

- [1] S. Freeman, S. L. Eddy, M. McDonough, M. K. Smith, N. Okoroafor, H. Jordt, and M. P. Wenderoth. Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, May 2014.