Research Projects

Dr Garry McDowell, PhD, FRCPath, FESC Reader in Clinical Science Manchester Metropolitan University **Research Project Units?**

Students completing full DClinSci C1: Doctoral Research and Innovation in Clinical Science C2: Research Project

Students not completing full DClinSci

C1: Doctoral Research and Innovation in Clinical Science

If you are completing the full DClinSci

Research Project

Year 3: Formal start and registration on research section of programme (C1).

Year 4 & 5: Enrol on C2 & continue to work on research project.

Year 5: Submit research project thesis

Outline Proposal

Purpose of Outline Proposal

- The research is academically sound
- The research is ethical
- There is a high probability of the student successfully completing the project within the period of their registration
- The student is embarking on a viable research project
- The supervisory team is appropriate and likely to be sustained
- Appropriate facilities are available for the student to conduct their research.

What is Required?

Completed Project Proforma Outline Proposal

- No more than 1000 words
- Aim
- Objectives/Principle research Question(s)
- Background and why project is novel/original
- Methods, including statistical analysis
- Timeline/Gantt Chart

If you are NOT completing the full DClinSci

Innovation Project

Standalone unit

C1: Doctoral Research and Innovation in Clinical Science

Completed in Year 3

Outline Proposal

Purpose of Outline Proposal

- The project is academically sound
- The project is ethical
- There is a high probability of the student successfully completing the project within the period of their registration
- The supervisory team is appropriate and likely to be sustained

What is required?

Completed Innovation Project Proforma

- Description of innovation and how it will improve quality
- Outline of intended methods
- Identify potential stakeholders
- Summary of patient and public involvement

Things to be aware of Must be Doctoral Level

Clear Background/ Rationale

Clear Purpose/Aim linked to addressing gap in knowledge

Subjects: numbers, recruitment, protocol

Data handling/analysis plan

Achievable – beware of unduly ambitious projects

Diagnostic Applications

Things to be aware of

Patient groups Research Question Inclusion/Exclusions Outcome measures/criteria for success Duration and follow-up Going Forward: What you are required to do.

If you are completing the full DClinSci

C1: Doctoral Research and Innovation in Clinical Science (year 3)

If completing full DClinSci, this unit will focus on the topic you have chosen for your final thesis.

In this instance C1 and C2 will be continuous, although you must pass the C1 assessment to continue for C2

Summary of Learning Outcomes

- Identify an issue and justify suitability for inquiry project
- 2. Critically analyse problem
- Appraise various methods of addressing problem and determine best way forward
 Design, present and defend comprehensive and viable proposal

What is Required Literature Review (4000 words) Critical analysis of your topic and why it is important

Proposal

Description of idea and why important Stakeholder involvement Business case/costing Executive and lay summary

Presentation 30 minutes, 20 mins presentation + 10 minutes Q&A

Literature Review

4000 words +/- 10% Critical analysis of the background to your project Difficult to be specific as each will be different Think about how you present information

Research Proposal

5 pages of A4

Aims and purpose of proposed investigation Background (brief) of project Plan of investigation and methodology Potential risks and challenges Timescale Expected value and impact

Costs

Staffing Material and consumables Equipment costs (if required) Publication costs Travel costs Other expenses (if applicable)

Stakeholder Engagement

Think about who your stakeholders are **Remember the patient** Think about how you will gather their opinions Think about how you should record evidence of stakeholder involvement

Executive and Lay Summary

Executive Summary: What are the key messages you want a funding panel to consider. Convince them. Write for a professional, but may not be entirely specialist reader

Lay Summary: Very important for dissemination. These are often published on grant awarding bodies website to show what projects have been funded.

C2: Research Project

'The purpose of this unit is to support students in undertaking their research project.'

To successfully complete this unit, students must:

Conceive a research project, plan and conduct a series of experiments and report and defend these in a thesis and viva-voce examination

Doctoral Criteria

Doctoral degrees are awarded to students who have demonstrated:

- the creation and interpretation of new knowledge, through original research or other advanced scholarship, of a quality to satisfy peer review, extend the forefront of the discipline, and merit publication
- a systematic acquisition and understanding of a substantial body of knowledge that is at the forefront of an academic discipline or area of professional practice
- the general ability to conceptualise, design and implement a project for the generation of new knowledge, applications or understanding at the forefront of the discipline, and to adjust the project design in the light of unforeseen problems
- a detailed understanding of applicable techniques for research and advanced academic enquiry.

Professional Doctorate

The research may be embedded in professional practice, driven by a problem identified from a 'real world' context, making a creative and critical intervention in that context, and leading to a practical outcome as well as a theoretically informed written thesis.

Learning Outcomes

Conceptualise, design and implement a project for the generation of new knowledge, applications or understandings at the forefront of clinical science and adjust the project design accordingly in the light of unforeseen problems.

Gain ethical, legal and regulatory approval as appropriate to the project and scientific discipline.

Defend the work included in the thesis.



Research project is undertaken over 3 years and completed in year 5.

Thesis is examined before viva

In line with other Doctoral projects feedback will not be provided by the examiners before the viva

How will you be assessed?

Thesis: A thesis of 30000 - 40000 words is submitted

Thesis is examined by internal and external examiner

Viva-voce: With internal and external examiner

Common Thesis Formats

Journal Format	Traditional Format
Abstract	Abstract
Systematic Review/Literature Review	Introduction/Literature Review
Empirical Paper(s)	Methods
Discussion/Review	Results Chapter(s)
References	Discussion and Conclusion
Appendicies	References and Appendicies

Innovation

Your final thesis must contain a chapter on the innovation aspects of your research.

This should focus on the the introduction of your research project into clinical practice.