

University of Cambridge: Programme Specifications

Every effort has been made to ensure the accuracy of the information in this programme specification. Programme specifications are produced and then reviewed annually by the relevant faculty or department and revised where necessary. However, we reserve the right to withdraw, update or amend this programme specification at any time without notice.

Further information about specifications and an archive of programme specifications for all awards of the University is available online at: www.admin.cam.ac.uk/univ/camdata/archive.html

POST-GRADUATE DIPLOMA IN CLINICAL SCIENCE (PRIMARY CARE RESEARCH)

1	Awarding body	University of Cambridge
2	Teaching institution	University of Cambridge; Institute of Continuing Education*
3	Accreditation details	None
4	Name of final award	Post-graduate Diploma
5	Programme title	Clinical Science (Primary Care Research)
6	JACS code(s)	A100
7	Relevant QAA benchmark statement(s)	None
8	Qualifications framework level	FHEQ Level 7
9	Date specification was produced/ last revised	May 2010
10	Date specification was last reviewed	N/A

* Cognate faculty endorsement provided by the Faculty of Clinical Medicine

Recent developments in expanding and assuring clinical academic career pathways have led to the establishment of a Clinical Academic Training Office (CATO) in the Clinical School of the University of Cambridge.

As part of the learning resources for clinical academic fellows, CATO proposes to establish a 'family' of Clinical Science Post-graduate Diplomas to service the needs of Academic Clinical Fellows (ACFs), Allied Health Professionals and other medical staff across a wide range of specialties. Entry to any one diploma will allow access to modules across the family of diplomas, allowing all students to integrate at the classroom level and provide an open flow of scientific discussion and collaboration.

The first Post-graduate Diploma in Clinical Science Research was established in Translational Medicine and Therapeutics (TMAT) in 2009. We now propose to develop a second Post-graduate Diploma in Clinical Science (Primary Care Research).

ACFs in the University of Cambridge are selected for their potential as research leaders and are attracted to the University because of its excellence in research and flexibility in research training. Flexible, apprenticeship-style research training for ACFs in Primary Care has been successfully established over the last 5 years, and the associated integrated teaching programme forms the basis for this new diploma.

The Post-graduate Diploma in Clinical Science (Primary Care Research) will be delivered by the Institute of Continuing Education (ICE) in partnership with the Faculty of Clinical Medicine. The Post-graduate Diploma will form part of the Institute's programme of credit-bearing professional development qualifications offered, at FHEQ Level 7, part-time to adult learners.

Aims of the Programme

The programme aims to:

1. Contribute to the commitment of the CUHNHSFT and the NIHR to continuing professional development of NHS staff in an integrated academic and clinical environment;
2. Develop a cadre of clinical research leaders who will pursue clinical academic careers within academia, the NHS and industry;
3. Contribute to the commitment of the East of England Deanery to continuing professional development of GP Specialty Trainees in an integrated academic and clinical environment;
4. Expand critical and current knowledge of research methodologies through an academically rigorous education programme offered in a world-leading clinical research environment.

Learning outcomes

Students who complete this programme successfully will have gained the skills and knowledge defined by the Academy of Medical Sciences. Supplementary Guidelines for the Annual Review of Competence Progression (ARCP) for Speciality Registrars undertaking joint clinical and academic training programmes (September 2007).

The ARCP requires skills and knowledge in the following areas:

1. ***Generic and applied research skills, e.g.***
 - Identifying a research topic and defining a research question
 - Data interpretation and statistical analysis
2. ***Research Governance, e.g.***
 - Research ethics and monitoring (including COREC processes)
 - Information storage and retrieval
3. ***Communication/Education (Transferable Skills), e.g.***
 - Writing and verbal presentation skills
 - Effective networking and collaboration

Students will possess a thorough grounding in basic and relevant epidemiological, psychological, sociological and health economic research methods, statistical methods and data analyses including trials and evidence synthesis. Upon successful completion, each student will be able to apply contemporary research tools to clinically relevant areas of investigation in Primary Care. The Post-graduate Diploma aims to equip clinical researchers with knowledge about the complex issues associated with conducting sound translational research in General Practice and community settings.

Upon successful completion of the programme, students should be able to demonstrate the following learning outcomes:

Knowledge and understanding

1. Knowledge and critical understanding of research approaches at the individual, population and service levels.
2. Knowledge and critical understanding of the development & evaluation of interventions in primary care including trials of non-drug interventions

3. Understanding the use of psychological theory to develop theory-based behavioural interventions e.g. the determinants of health behaviours and use of path diagrams, and causal modelling approaches
4. Knowledge of statistical concepts and their practical application - from understanding various packages to choices in strategy and skills in analysing data and finalising tables and figures for a scientific journal paper.
5. Knowledge of methods of evaluation of health service research and health economic approaches.
6. Knowledge and understanding of the regulatory submission process and the requirements and knowledge of Good Clinical Practice (GCP).

Cognitive/Intellectual Skills

1. Understanding of key aspects of designing and managing trials and other well designed studies.
2. Ability to research and interpret data to evaluate information using a number of sources.
3. Ability to communicate effectively and discuss ideas and results including issues of uncertainty.
4. Understanding principles of medical education, including interpreting and using student feedback, MCQs and EMQs, learning how to use and be mentors, and planning teaching.
5. Ability to conduct computerized searches of original literature and cite sources appropriately.
6. Ability to acquire necessary analytical skills to appraise papers, reviews and reports in biomedical literature.

Transferable Skills

1. Understanding of the key regulatory framework of clinical trials.
2. Ability to apply statistical and modelling skills.
3. Ability to transfer and adapt knowledge from one discipline to another.
4. Ability to carry out research within a team environment.
5. Understanding of how to translate scientific advance into cost-effective practice.
6. Ability to integrate results from research with information from a wide range of sources in written reports and to give oral presentations.
7. Understanding of general research skills, for example framing research questions, writing papers and applying for PhDs and grants.
8. Ability to work as a member of an interdisciplinary team.

Teaching and learning methods

Teaching methods will include, but not be limited to: formal lectures, interactive seminars, tutorials and workshops, discussion and networking groups, structured reading and case analysis, project work within the General Practice and Primary Care Research Unit, and presentation. Teaching sessions will set out concepts, conceptual frameworks and theory relating to the topics to be covered; other modes of teaching and learning are designed to enable participants to achieve the stated learning aims and objectives. All teaching sessions will have a feedback system in place for student's comments.

Periods of self-directed study and research between blocks of attendance will also be required; this will be enhanced through a Virtual Learning Environment (VLE), which will enable students and tutors to consolidate and expand upon the formally taught components. Students will be expected to carry out significant in-depth research and analysis between taught sessions.

Programme Entry Requirements

Applications are invited from Academic Clinical Fellows (ACFs) already accepted into the NIHR ACF programme, clinicians holding a medical degree with a 2i minimum equivalent,

and clinicians who are undertaking or have completed GP training. All students accepted onto the programme will be required to successfully complete all elements of the programme (i.e. 4 courses and the research project) to be recommended for the Post-graduate Diploma in Clinical Science (Primary Care Research).

Applicants to the programme will be expected to demonstrate proficiency in the English language; students whose first language is not English must be able to satisfy the current English Language Competence requirements of the University's Board of Graduate Studies in the year in which they apply for admission to the course.

Assessment methods

The Post-graduate Diploma is assessed using multiple techniques and inter-related strategies, including written individual essays, practical assignments, case studies and active participation throughout the programme. The assessment culminates in a research project, examined summatively and supported by way of a written project report. The communication and educational components will also be assessed summatively by a formal presentation and peer teaching component. Assessment will also be measured formatively by: attendance at taught courses, attendance at sessions with academic supervisor, and participation in teaching at under- and post-graduate level. All assessments are supervised by a supervisory team. The total word count for the programme is 20,000: 10,000 words (maximum) from the research project report and 4 course assignments of 2,500 words (maximum).

The Post-graduate Diploma assignments will be marked by supervisors and the research project will be marked by the examination panel.

The pass mark for the entire Programme is 50%. Candidates who have not achieved an average mark of at least 50% across the course assignments and the Project Report may be permitted to submit a re-sit assignment on **one occasion only** for each course (**not** including the Research Project).

All students will participate in the annual symposium where opportunities for presenting work in progress will be available and the day will include speakers across all participating disciplines and invited senior academics.

Programme structure: overview

The programme is offered at FHEQ Level 7 and attracts 120 credits.

The programme consists of 4 courses, attracting a total of 60 credits, plus a Research Project worth 60 credits. The curriculum is designed to facilitate in-depth study, independent research and critical analysis of the subject areas. All courses incorporate individual research. Besides two generic courses established in the Post-graduate Diploma in Clinical Science and the compulsory research project, the Post-graduate Diploma in Clinical Science (Primary Care Research) will offer three courses of particular relevance to public health and primary care research from which two courses will be selected and completed for the Post-graduate Diploma.¹

The components comprising the Post-graduate Diploma are:

¹ It will also be possible to attend the third course on a non-accredited basis, or other courses offered across the programme of Post-graduate Diplomas in Clinical Science.

1. Generic Courses (compulsory)
 - 1.1 Research Statistics and Skills
 - 1.2 Practical Aspects of Clinical Research
2. Specialist Courses (2 of 3 options)
 - 2.1 Primary Research Methods
 - 2.2 Secondary Research Methods
 - 2.3 Teaching and Education Research
3. Research Project (compulsory)

The programme is offered on a part-time basis, with one intake a year. Students will normally take a minimum of 12 months across 2 academic years to complete the Post-graduate Diploma. The maximum time for completion will normally be 24 months (ACFs may be allowed to suspend during hospital training posts and resume when returning to academic GP). Teaching is delivered throughout the year in a blended format, consisting of required intensive face-to-face sessions supported by an interactive Virtual Learning Environment (VLE).

Programme structure: detail

Generic Course 1: Research Statistics and Skills (15 credits)

This course enables participants to develop critical understanding of statistical methods and techniques, and, in particular, their application to the field of clinical medical research. Topics covered include non-parametric methods for skewed and ordered categorical data and small datasets; multiple and logistic regression and other methods of multivariable analysis; basic concepts in randomised controlled clinical trials and sample size; survival analysis; the use of statistical software; critical appraisal of medical literature and statistics for medical journals; and the handling of statistical data. Assessment will include, but not be limited to, practical written assignments, case studies and applied projects. Maximum word count is 2500.

Generic Course 2: Practical Aspects of Clinical Research (15 credits)

This course covers practical aspects of preparing grant applications, writing papers, presentation skills, reviewing papers and grants, and metrics of productivity/achievement in science. Participants will critically examine research ethics and governance issues and their significance and impact in clinical research. Key topics will include preparation of ethics and other regulatory submissions, requirements for study monitoring, data collection and analysis, and Good Clinical Practice (GCP). Assessment will include, but not be limited to, practical written assignments, case studies and applied projects. Maximum word count is 2500.

Specialist Course 3 (optional): Primary Research Methods (15 credits)

- Qualitative research methods
- Trials, development and evaluation of interventions for primary care
- Assessment will include, but not be limited to, practical written assignments, case studies and applied projects. Maximum word count is 2500.

Specialist Course 4 (optional): Secondary Research Methods (15 credits)

- Systematic reviews
- Use of routinely available data sets
- Assessment will include, but not be limited to, practical written assignments, case studies and applied projects. Maximum word count is 2500.

Specialist Course 5 (optional): Teaching and Education Research (15 credits)

- Teaching styles and delivery
- Evidence base for teaching methods
- Education research
- Assessment will include, but not be limited to, supervised practical written assignments, case studies and applied projects. Maximum word count is 2500.

Research Project (60 credits)

The research project will be developed and carried out under the direction of an assigned supervisor, and will be designed to demonstrate critical understanding and application of the research principles developed in the first 4 courses. Assessment will be by way of a written research report of 10,000 words. It is likely to be embedded within on-going peer-reviewed and externally funded programmes of work, and can lead to submission of paper(s) for publication.

Employability

Immediate career options will include doctoral training fellowships.

Career destinations will include:

- Senior Clinical Academic Researcher (University)
- Clinical Academic General Practitioner (e.g. Educator, PCRN, Collaborator)
- Clinical leads in NHS R&D

Students completing the Post-graduate Diploma in Clinical Science (Primary Care Research) will normally already be in employment or training; the Post-graduate Diploma will enable them to enhance their capacity to critically analyse and prosecute primary care research. The Post-graduate Diploma is intended to ensure that academic health professionals in training are able to enter full-time doctoral research in a specific, specialist area from a platform of sound, broad-based instruction in research methodology.

Managing Teaching Quality and Standards

The teaching quality and standards of the course will be monitored by the Programme Advisory Committee and the Subject Moderation Panel, consisting of the University and external moderators and other Faculty and ICE members as agreed by the Education Committee.

Student Support

Advice to students is available both before and after they have registered for a course from the course director or the administrative staff assigned to the programme. All students are provided at the start of a course with the ICE Student Handbook.

Administrative staff work closely with the academic team throughout the programme, and are able to provide appropriate levels and types of student support – for instance, support in technical matters, such as using the VLE.

Periods of self-directed study and research between blocks of attendance are required; this will be enhanced through a Virtual Learning Environment (VLE), which will enable students and tutors to consolidate and expand upon the formally taught components, whilst continuing discussions related to the programme. Students will be expected to carry out significant in-depth research and analysis between taught sessions; students will be assigned a supervisor, and will be able to discuss issues with their supervisor and with the Course Director through the VLE.