Programme Specification for the MRes in Clinical Research

This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. This specification provides a source of information for students and prospective students seeking an understanding of the nature of the programme and may be used by the College for review purposes and sent to external examiners. More detailed information on the learning outcomes, content and teaching, learning and assessment methods can be found in the course handbook online [http://www1.imperial.ac.uk/departmentofmedicine/postgraduate/mresclinicalresearch/structure/](http://www1.imperial.ac.uk/departmentofmedicine/postgraduate/mresclinicalresearch/structure/)

The accuracy of the information contained in this document is reviewed by the College and may be checked by the Quality Assurance Agency.

1. Awarding Institution: Imperial College London
2. Teaching Institution: Imperial College London
3. External Accreditation by Professional / Statutory Body: Not applicable
4. Name of Final Award: MRes
5. Programme Title: Clinical Research
6. Name of Home Department: Medicine
7. Name of Home Faculty: Medicine
8. UCAS Code (or other coding system if relevant): N/A
9. Relevant QAA Subject Benchmarking Group(s) and/or other external/internal reference points

N/A
10. Level(s) of programme within the Framework for Higher Education Qualifications (FHEQ):

| Master’s (MSc, MRes) | Level 7 |

11. Mode of Study

Full-time and Part-time

12. Language of Study:

English

13. Date of production / revision of this programme specification (month/year):

October 2015
14. Educational aims/objectives of the programme

The aim of the programme is to provide students with a broad training in and practical experience of designing, implementing, and reporting clinical studies. This will be done through practical experience of designing, implementing and reporting clinical studies.

15. Programme Learning Outcomes

1. Knowledge and Understanding of

1. Fundamental principles of clinical investigation through both theoretical and practical exposure
2. Principles of modern technologies used in clinical research
3. Research design, hypothesis formulation and research methodologies
4. The regulation of clinical research, including ethical considerations
5. The essential facts, concepts, principles and theories relevant to the student’s theme of research;

2. Skills and other Attributes

Intellectual Skills

1. Critically evaluate current developments in the field of clinical research
2. Formulate and test hypotheses using appropriate experimental design with due regard to regulatory issues
3. Plan, conduct and write up a substantial programme of original research
4. Interpret data and evaluate information from a wide range of sources
5. Use the scientific literature effectively
6. Communicate ideas and results

Practical Skills

1. Plan a clinical study
2. Monitor clinical safety
3. Interpret clinical and laboratory data
4. Use computational tools and packages

Professional Skills Development

1. Communicate effectively through oral presentations, written reports and scientific publications;
2. Apply statistical and modelling skills;
3. Management skills: decision processes, objective criteria, problem definition, project design and evaluation, risk management, teamwork and coordination
4. Transfer techniques and solutions from one discipline to another;
5. Use Information and Communications Technology;
6. Manage resources and time;
7. Learn independently with open-mindedness and critical enquiry
8. Able to retrieve, analyse and assimilate complex information

In addition to the training embedded in the programme, the Graduate School runs a Professional Skills Development programme for Master’s level students. The programme, consisting of the “MasterClass” workshops and e-learning modules, aims to help students develop the skills needed both in their academic studies and in obtaining and progressing in their future careers. The Careers Advisory Service also provides training and support for students on career options, job seeking and interviews.
16. The following reference points were used in creating this programme specification

Course handbook

17. Programme structure and features, curriculum units (modules), ECTS assignment and award requirements

Pathways

Three pathways exist, with modules specific to the background/interests of the candidates. The Translational Medicine pathway has been designed for medics and basic scientists. The Human Nutrition pathway has been designed to cater for healthcare professionals and scientists with an interest in nutrition research, and the Diabetes and Obesity pathway is ideal for those wishing to progress to or expand on a research based role within the NHS.

There are no optional modules in any of the pathways. There is a prescribed route through each pathway and students who do not complete all modules required for their pathway will not be eligible for the award.

The teaching structure consists of 4 taught modules, each covered in 5 days (1 week) throughout the year. The remaining time is allocated to projects and self-study.

Three core modules are compulsory for all MRes pathways, with a fourth module differing for each MRes pathway and providing specialist knowledge in the chosen discipline.

Course assessment

The course comprises of a taught element – 4 modules assessed by 2 exams and 1 piece of coursework and a research element (thesis and viva), please see the following assessment breakdown –

Examination and Assessment

<table>
<thead>
<tr>
<th>Elements</th>
<th>Weighting</th>
<th>Components</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taught element</td>
<td>30%</td>
<td>2 written papers (10% each)</td>
<td>Double marked internally and viewed by external examiner</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 piece of coursework (10%)</td>
<td></td>
</tr>
<tr>
<td>Research element</td>
<td>70%</td>
<td>Thesis (70%)</td>
<td>Mark agreed after viva by internal and external examiner</td>
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<tr>
<td></td>
<td></td>
<td>Viva (30%)</td>
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</table>

**Taught element –**

The written examinations are designed to assess the taught part of the programme structured in 4 modules. There will be two written exams each of which will be 2 hours long.

- 1st Exam – the paper will cover material from modules 1&2 (approximately 1 hour per module).
• 2nd Exam – the paper will cover material from module 3 and the pathway specific module (approximately 1 hour per module).
• Critical appraisal coursework assignment - this will be completed in June, with students being required to appraise a given paper as a structured essay (approximately 1 full week to complete).

**Research Element** -

A project report thesis (to be submitted in the final month of the programme) and viva voce examination will constitute the final examination. Students will also be asked to produce a poster for their Viva examination (poster is unassessed).

**Programme dates** -

<table>
<thead>
<tr>
<th>Core Module 1</th>
<th>Core Module 2</th>
<th>Pathway specific Module</th>
<th>Core Module 3</th>
<th>Critical appraisal assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>(October)</td>
<td>(November)</td>
<td>(January)</td>
<td>(March)</td>
<td>On-going monthly journal clubs and project monitoring throughout the year.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Appraise a given paper as a structured essay. Assignment given out to be submitted 7 days later</td>
</tr>
<tr>
<td>Introduction to Clinical Research</td>
<td>Bench to Bedside</td>
<td>Specialist Module</td>
<td>Therapeutics (inflammatory, cardiovascular, respiratory, metabolic, oncology and neuro-psychiatric diseases.</td>
<td></td>
</tr>
<tr>
<td>Medical Governance</td>
<td>Clinical Trial Design and Implementation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Appraisal</td>
<td>Clinical and Experimental Medicine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Statistics</td>
<td>Tools in Clinical Research</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exam 1 (Mid-Dec)</td>
<td>To examine mod 1 &amp; 2 (Excluding critical appraisal)</td>
<td></td>
<td>To examine Module 3 and Specialist</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>June</td>
</tr>
</tbody>
</table>

**We offer two options to part time students:**

1. Recommended option: Attend all taught courses and sit all exams in the first year. Start project work in year 1, but the majority of work will be in year 2 after taught modules are complete. The critical appraisal assignment can be completed in either year 1 or 2.

2. Alternative option: Attend module 1 and 2 and sit exam 1 in the year 1, then module 3 and specialist module and sit exam 2 in year 2. Start the project work in year 1 and progress throughout the 2 years. The critical appraisal assignment can be completed in either year 1 or 2.

All students undertake an induction programme during their first week, which will include registration; general orientation to the Hammersmith campus; introduction to the MRes team; essential briefings on health and safety, computing and library facilities.
Research projects will be identified in the first month of the programme and will normally be carried out on the Hammersmith Campus, but arrangements will be made for students based at other hospitals to undertake their projects at their home institution. In such instances, a co-supervisor will be appointed at the external location and regular contact will be maintained with the course tutor.

For the entire duration of the programme (except during College closure dates and holidays and outside the 5-day blocks of lectures), students will be required to dedicate the equivalent of 5 days/week, or the equivalent of 2.5 days/week if part-time students to the implementation of their projects, as discussed and agreed with supervisors.

Research projects are submitted mid-August and the oral examination (viva voce) takes place in September.

18. Support provided to students to assist learning (including collaborative students, where appropriate).

**Departmental/course induction programme –**
- Library induction.
- Health and safety induction.
- Course induction with staff.
- Social lunch with staff and other students.
- College wide induction activities.
- MRes Student Handbook.
- Introduction to Graduate School Professional Skills Masterclass programme.
- Introduction to careers service.

**Departmental/college facilities/support –**
- A large community of postgraduate research students and postdoctoral research workers who work at Hammersmith.
- A comprehensive external speaker seminar and lecture programme at the Hammersmith Campus.
- Library and other learning resources and facilities at Hammersmith, and also at the South Kensington Campus.
- Dedicated computing facilities at Hammersmith.
- Student email and open personal access to tutorial staff including the Course Director.
- Access to Teaching and Learning Support Services, which provide assistance and guidance, e.g. on careers.
- Employer needs and opinions feed into the programme through frequent guest lecturers from industry.

**Departmental/course Feedback policies –**
- An MRes staff - student committee, which meets two/three times per year.
- Feedback on exam performance available on request, failed exam students are encouraged to seek feedback.

Welfare and Pastoral Care:
College student welfare services are the responsibility of the Director of Student Affairs who manages the Head of the Student Counselling Service, the Senior Disability Officer, the College Tutors and the Hall Wardens. The Director of Student Affairs acts as liaison between the College and the College Health Centre (NHS) and the Chaplaincy and works closely with the ICU Deputy President (Welfare)
to enhance welfare, advice and support.

- Access to student counsellors on the South Kensington site.
- In addition to the course administrator and academic staff, who have responsibility for student welfare and guidance, all students are able to contact the college tutor whose role is to assist and advise on pastoral and academic issues.

The Library
There are libraries at all Imperial College campuses; with print collections, PCs, study space and other amenities. The Library has extensive electronic resources, including electronic databases, electronic books and full text electronic journals. Students are able to search for electronic resources, using the on-line library catalogue and web pages, and access them from anywhere on and off campus.

English Language Support
The Centre for Academic English offers classes, the majority of which are free of charge, to students and members of Imperial College London who are not native speakers of English.

19. Criteria for admission:
For the Translational Medicine pathway: normally an upper second class honours in a life science or a medical degree or equivalent is preferred.

For Human Nutrition/Diabetes and Obesity: normally an upper second class honours in a life science or a medical degree or equivalent is preferred.

Students with a lower second class degree are also invited to apply.

Students must indicate the pathway in which they are interested in within their personal statement on the application form.

20. Processes used to select students:
Students are selected on the basis of academic qualifications, relevant experience, and academic references. Wherever possible, applicants are invited to the Hammersmith campus for an interview, if this is not possible then staff aim to carry out a skype interview, in particular with overseas applicants.

21. Methods for evaluating and improving the quality and standards of teaching and learning
a) Methods for review and evaluation of teaching, learning, assessment, the curriculum and outcome standards:
The external examiner system and Boards of Examiners are central to the process by which the College monitors the reliability and validity of its assessment procedures and academic standards. Boards of Examiners comment on the assessment procedures within the College and may suggest improvements for action by relevant departmental teaching Committees.

At programme level, the Head of Department has overall responsibility for academic standards and the quality of the educational experience delivered within the department.

The Faculty Studies Committees and the Graduate School Master’s Quality Committees review and consider the reports of external examiners and accrediting bodies and conduct internal routine reviews of programmes. The Quality Assurance and Enhancement Committee conducts external periodic reviews at departmental level. Regular reviews ensure that there is opportunity to highlight examples of good practice and ensure that recommendations for improvement can be made.

Most of the College’s undergraduate programmes are accredited by professional engineering and
science bodies or by the General Medical Council. Accreditation provides the College with additional assurance that its programmes are of an appropriate standard and relevant to the requirement of industry and the professions. Some postgraduate taught courses are also accredited.

b) Committees with responsibility for monitoring and evaluating quality and standards:

The Senate oversees the quality assurance and regulation of degrees offered by the College. It is charged with promoting the academic work of the College, both in teaching and research, and with regulating and supervising the education and discipline of the students of the College. It has responsibility for approval of changes to the Academic Regulations, major changes to degree programmes and approval of new programmes.

The Quality Assurance and Enhancement Committee (QAEC) is the main forum for discussion of QA policy and the regulation of degree programmes at College level. The QAEC develops and advises the Senate on the implementation of College policies and procedures relating to quality assurance, enhancement and internal audit of quality and arrangements necessary to ensure compliance with national and international frameworks and codes of practice relating to academic standards, quality assurance and enhancement.

The Faculty Studies Committees and the Graduate School Master’s Quality Committees are the major vehicle for the quality assurance of undergraduate / Master’s level courses respectively. Their remit includes: setting the standards and framework, and overseeing the processes of quality assurance, for the areas within their remit; monitoring the provision and quality of e-learning; undertaking reviews of new and existing courses; noting minor changes in existing programme curricula approved by departments; approving new modules, changes in module titles, major changes in examination structure and programme specifications for existing programmes; and reviewing proposals for new programmes, and the discontinuation of existing programmes, and making recommendations to Senate as appropriate.

The Faculty Teaching Committees maintain and develop teaching strategies and promote interdepartmental and inter-faculty teaching activities to enhance the efficiency of teaching within Faculties. They also identify and disseminate examples of good practice in teaching.

Departmental Teaching Committees have responsibility for the day-to-day oversight of a department’s programmes including the approval of minor changes to course curricula and examination structures and approval of arrangements for course work.

c) Mechanisms for providing prompt feedback to students on their performance in course work and examinations and processes for monitoring that these named processes are effective:

After every assessment, students can request feedback from the Course Organiser. At the end of the programme of study, students can request feedback from the Board of Examiners.

d) Mechanisms for gaining student feedback on the quality of teaching and their learning experience and how students are provided with feedback as to actions taken as a result of their comments:

Students are invited to participate in surveys so that student feedback on the College and its courses can be obtained and used to enhance provision. External surveys in which students participate include:

- National Student Survey (NSS)
- Postgraduate Research Experience Survey (PRES)
- International Student Barometer (ISB)
Internal surveys include:

- SOLE (undergraduate student online evaluation exercise)
- PG SOLE (Master’s student online evaluation exercise)
- TOLE (tutor online evaluation exercise)

Staff-Student committees are the primary arenas for staff-student engagement at a departmental level. Staff-student committees are run slightly differently according to the size and UG:PG ratio of the department. Most departments have separate committees for undergraduates and postgraduates. A range of issues are discussed from SOLE and PG SOLE reports, external examiner reports and curriculum changes to practical issues, such as the availability of computers and pastoral care. Staff-Student Committees elect a Chair each year, which could be either a member of staff or a student. If the Chair is a member of staff, the Deputy Chair should be a student, and vice versa. The Chair will liaise with the department and students to agree an agenda for the meeting in advance.

e) Mechanisms for monitoring the effectiveness of the personal tutoring system:

N/A

f) Mechanisms for recognising and rewarding excellence in teaching and in pastoral care:

Staff are encouraged to reflect on their teaching, in order to introduce enhancements and develop innovative teaching methods. Each year College awards are presented to academic staff for outstanding contributions to teaching, pastoral care, supporting the student experience or research supervision. A special award for Teaching Innovation, available each year, is presented to a member of staff who has demonstrated an original and innovative approach to teaching. Nominations for these awards come from across the College and students are invited both to nominate staff and to sit on the deciding panels.

g) Staff development priorities for this programme include:

- Certificate of Advanced Study in Learning and Teaching (CASLAT) qualification for all eligible staff;
- Attendance at School of Professional Development workshops and courses such as supervising research students, becoming a personal tutor, communicating knowledge, etc. for those not eligible for CASLAT.

22. Regulation of Assessment

a) Assessment Rules and Degree Classification:

For Master’s programmes:
The Pass Mark for Master’s level programmes is 50%.

Examiners have the discretion to award a result of merit or distinction to candidates who have fulfilled the requirements for the award of the Master’s degree as specified in the Examination Regulations. Postgraduate Diplomas and Postgraduate Certificates are unclassified and are pass/fail only.

In order to be awarded a result of merit, a candidate must achieve at least 60 per cent in each element; in order to be awarded a result of distinction, a candidate must achieve at least 70 per cent in each element.

Where appropriate, a Board of Examiners may award a result of merit where a candidate has achieved an aggregate mark of 60% or greater across the programme as a whole AND has obtained a mark of 60% or greater in each element with the exception of one element AND has obtained a mark of 50% or greater in this latter element.

Where appropriate, a Board of Examiners may award a result of distinction where a candidate has
achieved an aggregate mark of 70% or greater across the programme as a whole AND has obtained a mark of 70% or greater in each element with the exception of one element AND has obtained a mark of 60% or greater in this latter element.

Further information is available in the Academic and Examination Regulations.

Details of the course marking scheme is available in the student handbooks. The Pass Mark for all postgraduate taught course modules is 50%. Students must pass all elements in order to be awarded a degree.

b) Processes for dealing with mitigating circumstances:

The College’s Extenuating Circumstances Affecting Academic Performance: Policy and Procedures makes provision for Boards of Examiners to use their discretion where extenuating circumstances are independently corroborated and are judged by the advisory panel to be of sufficient severity to have substantially affected performance.

c) Processes for determining degree classification for borderline candidates:

For Master’s programmes: Candidates should only be considered for promotion to pass, merit or distinction if their aggregate mark is within 2.5% of the relevant borderline. Nevertheless, candidates whom the Board deems to have exceptional circumstances may be considered for promotion even if their aggregate mark is more than 2.5% from the borderline. In such cases the necessary extra marks should be credited to bring the candidate’s aggregate mark into the higher range. Detailed records of all decisions should be recorded in the minutes of the meeting of the Board.

d) Role of external examiners:

The external examiner system and Boards of Examiners are central to the process by which the College monitors the reliability and validity of its assessment procedures and academic standards. External examiners’ primary duties are to ensure that the standard of the College’s degrees is consistent with that of the national sector; to ensure that assessment processes measure student achievement rigorously and fairly and that the College is maintaining the threshold academic standards set for its awards in accordance with the frameworks for higher education qualifications and applicable subject benchmarks statements. External examiners gather evidence to support their judgement through the review of course materials, approval of draft question papers, assessment of examination scripts, projects and coursework, and in some instances, through participation in viva voce and clinical examinations. External examiners are members of Boards of Examiners and participate in the determination of degree classifications and student progress.

External examiners submit their reports to the Provost. The reports are scrutinised by the Vice-Provost (Education) and by the Registry QA team to identify any points of concern. These are then referred to the Head of Department and Chairman of the Board of Examiners, with a request to comment on the points raised and to explain how any concerns will be addressed. The reports and departmental comments are subsequently considered by the relevant Faculty Studies Committee or Graduate School Master’s Quality Committees, which may seek further assurances from a department on the resolution of a particular problem. The Committees will also consider examples of good practice raised by the external examiners. Following consideration of the reports, the Registry provides feedback to external examiners. From 2012-13 external examiner reports, and the departmental responses to them, are available on the College’s intranet.

23. Indicators of Quality and Standards

- Student satisfaction surveys
- External examiner reports

24. Key sources of information about the programme can be found in

- Postgraduate Prospectus, Imperial College London (available on-line www.imperial.ac.uk)
• Student handbook
• Departmental website