Programme Specification for the MRes in Experimental Neuroscience

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 at http://www1.imperial.ac.uk/resources/7660F6A4-BF4A-4917-AC1F-4265AF31F4BC/. 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: External examiners

4. Name of Final Award (BEng / BSc / MEng, MSc, MRes etc.): MRes

5. Programme Title (e.g. Biochemistry with Management): Experimental Neuroscience

6. Date of production / revision of this programme specification: August 2013

7. Name of Home Department: Medicine

8. Name of Home Faculty: Medicine

9. UCAS Code (or other coding system if relevant): A3TZ

10. Relevant QAA Subject Benchmarking Group(s) and/or other external/internal reference points

QAA Subject Benchmarking for Masters programmes are currently under review. The accreditation of this course has been reviewed by the Graduate School with reports from external referees.

11. Level(s) of programme within the Framework for Higher Education Qualifications (FHEQ)

| Master’s (MSc, MRes, MBA, PG Diploma, PG Certificate etc.) | Level 7 |

12. Mode of Study Full-time: Full-time

13. Language of Study: English

14. Educational aims/objectives of the programme

The aim of the course is to offer hands on experience of the application of a wide range of core techniques to current areas of neuroscience research. It thus prepares the students for the rigors of research and equips them to make a more informed choice of Ph.D. project. Those students who choose not to follow a PhD will end the MRes course with an enhanced understanding of the research process and training in transferable skills. They will be offered careers advice during the course regarding the range of options available.
The programme aims/objectives are to:

- Develop core transferable skills such as oral and written presentations.
- Develop an understanding that enables students to critically evaluate current research and associated techniques.
- Develop hands on practical skills in a wide range of experimental techniques
- Develop skills in experimental design and data analysis

15. Programme Learning Outcomes

1. Knowledge and Understanding

Knowledge and Understanding of:

- the range of topics and experimental approaches in modern neuroscience
- the research process that enables the student:
  (i) to evaluate critically current research
  (ii) to evaluate methodologies and develop critiques of them
  (iii) to design and conduct appropriate research

To achieve these goals the students undertake three research projects on different topics and write three mini-dissertations on set topics that do not overlap with their research projects. Each research project must be undertaken in a different research group in order to increase the range of practical skills and to understand the variation in group dynamics. Students are also strongly encouraged to attend departmental and other seminars in the area of neuroscience.

2. Skills and other Attributes

Intellectual Skills:

- A broad understanding of neuroscience
- The ability to critically evaluate the state of knowledge derived from neuroscience research.
- The ability to formulate hypotheses based on an understanding of neuroscience

Practical Skills:

- The ability to design experiments with clear outcomes
- Experience of a wide range of experimental techniques
- The analysis of experimental results including the use of appropriate statistics

Professional Skills Development:

- The ability to communicate information and ideas in written and oral form
- The ability to work as part of a team and as an individual
- Decision-making in complex and unpredictable situations
- The independent learning ability required for continuing professional development.

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
- FHEQ Qualification Level Descriptors

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

The MRes course is divided into three parts, A, B and C. All components of the course are compulsory.

Each part consists of an 11-12 week hands on research project followed by a two week write-up. In the week following the submission of the project report (4,000-6,000 words long not counting references and figure legends) each student must present and answer questions on the research project. In parallel each student is required to deliver a mini-dissertation on a set question in neuroscience that is unrelated to any of the research projects. The mini-dissertations are expected to include reference to and critical analysis of the primary literature relevant to the topic. The mini-dissertations should be 3,000 to 5,000 words long not counting references. Students must submit all of the above elements in order to pass each part of the course. Each research project is 25% of the total and each mini-dissertation is 8.3% of the total mark for the course.

- Part A is 30 ECTS
- Part B is 30 ECTS
- Part C is 30 ECTS

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

- Departmental/Course Induction Programme:
  The first week of the course includes an introduction to the aims of the course, the timetable, the timing and nature of assessments and a warning about plagiarism. Students are also given the opportunity to acquire basic skills in information technology, literature evaluation, principles of statistical evaluation and presentation skills required for the course. The course handbook is provided along with a description of the different campuses that the course may be taught on.

- Departmental Facilities:
  As part of the first week students are given a tour of facilities including the library and other study facilities. A health and safety induction is also provided.

- Course Feedback Policy:
  The Course Tutor will arrange individual meetings with each student half way through each rotation to discuss general progress or problems of any nature. At the end of each rotation, after assessments have taken place, students will receive written feedback on their performance.

- 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.

Within the department each student is assigned a personal tutor. Students are also advised about the wider College provision for pastoral and welfare support. Students who have not previously registered a disability are requested to do so confidentially, by the department pastoral support team, so that suitable provision can be made with respect to teaching and learning support services and for assessments.

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 Unit

The English Language Support Unit (ELSU) 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

Candidates are required to have a good first degree in an appropriate medical or science subject at an upper second class or better from a UK university or an equivalent qualification obtained outside the UK. In exceptional cases candidates with a 2.2 degree or equivalent will be considered.

Students for whom English is not their first language and who did not undertake their undergraduate degree in English will be expected to pass the British Council IELTS test at grade 6.0 or above, with a score of 5 or above in each component. An alternative is the TOEFL Internet Based Test (iBT) with a minimal score of 90 overall, with required scores of 20 in Speaking and 24 in Writing.

20. Processes used to Select Students

In order to apply for a place, students must complete the online Imperial College London Postgraduate application form and two confidential references are requested for each candidate. Applications are then assessed by the Course Organiser before suitable candidates (see above) are invited for interview. The interviews take place at Imperial College London by the Course Organiser and at least one other member of the MRes Committee.

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 inter-departmental 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:

Members of staff are given marking deadlines to ensure that feedback can be given as quickly as possible. Feedback is usually given via the Course Organiser who also keeps the students appraised on their performance on the course to date.

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:**

The personal tutors report, via the Course Tutor, to the Experimental Neuroscience Steering Committee that holds regular meetings. Student confidentiality is preserved.

f) **Mechanisms for recognising and rewarding excellence in teaching, research supervision, pastoral care and supporting the student experience:**

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:**

Completion of CASLAT or equivalent experience in teaching.

22. **Regulation of Assessment**

a) **Assessment Rules and Degree Classification:**

For **undergraduate programmes:**
Classification of degrees will be according to the following range of marks:

<table>
<thead>
<tr>
<th>Class</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>First class</td>
<td>70 - 100%</td>
</tr>
<tr>
<td>Second class (upper division)</td>
<td>60 - 69.9%</td>
</tr>
<tr>
<td>Second class (lower division)</td>
<td>50 - 59.9%</td>
</tr>
<tr>
<td>Third class</td>
<td>40 - 49.9%</td>
</tr>
</tbody>
</table>

The pass mark for all undergraduate programmes is 40%.

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.

The marking scheme for this programme is available at:

http://www1.imperial.ac.uk/resources/7660F6A4-BF4A-4917-AC1F-4265AF31F4BC/

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 undergraduate programmes: Candidates who fall no more than 2.5% below the minimum mark for a higher honours classification shall be eligible for review of their final classification; this review could include an oral examination or practical test or other mechanism appropriate to the discipline. Candidates whose marks are below the 2.5% borderline may be considered for a higher honours classification where certain provisions apply. Where the Board of Examiners determines that a candidate should be awarded a higher honours classification extra marks should be applied to bring their final marks into the higher range. Detailed records of all decisions should be recorded in the minutes of the meeting of the Board.

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:

Reports of external examiners
Review by the Graduate School

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

MRes Experimental Neuroscience Course Page online:  
http://www1.imperial.ac.uk/medicine/teaching/postgraduate/taughtcourses/experimentalneuroscience/

Postgraduate Prospectus, Imperial College of Science, Technology & Medicine (available online  
http://www3.imperial.ac.uk/pgprospectus