Programme Specification for the MRes in Chemical Biology of Health & Disease

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://www3.imperial.ac.uk/chemicalbiologycentre/doctoraltrainingcentre/phd. 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 (BEng / BSc / MEng, MSc etc.): MRes
5. Programme Title (e.g. Biochemistry with Management): Chemical Biology of Health & Disease
6. Date of production / revision of this programme specification: March 2016
7. Name of Home Department: Chemistry
8. Name of Home Faculty: Natural Sciences
9. UCAS Code (or other coding system if relevant): Not Applicable

10. Relevant QAA Subject Benchmarking Group(s) and/or other external/internal reference points (http://www.qaa.ac.uk/AssuringStandardsAndQuality/Pages/default.aspx):

The main aims of master's degree programme include:
- to extend students' comprehension of key chemical and biological concepts and so provide them with an in depth understanding of specialised areas at the physical and life sciences interface,
- to provide students with the ability to plan and carry out experiments independently and assess the significance of outcomes
- to develop in students the ability to adapt and apply methodology to the solution of unfamiliar types of problems
- to instil a critical awareness of advances at the forefront of the chemical science discipline
- to prepare students effectively for professional employment or doctoral studies in the chemical sciences.

Activities to be undertaken by the student in this degree programme are given below:

Research training
- Project-specific experimental skills.
- Accessing literature.
• Research planning, including evaluation of hazards and environmental effects.
• Making oral presentations, writing reports, including critical evaluation.
• Participating in colloquia.

**Research project**
• Critical appraisal of literature.
• Formulation of coherent and feasible research proposal
• Implementation of planned experiments.
• Recording of data and their critical analysis.
• Dissertation.
• Outcome potentially publishable.

**Advanced studies**
• In area of specialism to support research topic.
• Complementary studies outside, but cognate to, area of specialism.

**Problem-solving**
• Development of general strategies including the identification of additional information required and problems where there is not a unique solution.
• Application of advanced studies to the solution of problems.

**Professional studies**
• Ethics and societal responsibilities.

Students are expected to develop a wide range of different abilities and skills. These may be divided into three broad categories:

**Physical/Life-sciences-related cognitive abilities and skills**
• Demonstration of knowledge and understanding of essential facts, concepts principles and theories relating to the subject areas identified above
• Competence to apply such knowledge and understanding to the solution of qualitative and quantitative problems mostly of a familiar nature
• Competence in recognising and analysing problems and plan strategies for their solution
• Skills in the evaluation, interpretation and synthesis of biological and chemical information and data
• Skills in the practical application of theory using computer software and models
• Skills in communicating scientific material and arguments
• Information technology (IT) and data-processing skills, relating to chemical information and data.
• The ability to adapt and apply methodology to the solution of unfamiliar problems
• The ability to assimilate, evaluate and present research results objectively
• Skills required to undertake a research project the outcome of which is of a quality that is potentially publishable.

**Physical/Life-sciences-related practical skills**
• Skills in the safe-handling of chemical materials, taking into account their physical and chemical properties including any specific hazards associated with their use and the ability to conduct risk assessments
• Skills required for the conduct of documented laboratory procedures involved in synthetic and analytical work, in relation to both inorganic and organic systems
• Skills in the monitoring, by observation and measurement, of chemical properties, events or changes, and the systematic and reliable recording and documentation thereof
- Skills in the operation of standard chemical instrumentation
- The ability to interpret and explain the limits of accuracy of their own experimental data in terms of significance and underlying theory.
- Knowledge and judgment required to select appropriate biological, chemical and physical science techniques and procedures Competence in the planning, design and execution of experiments
- Skills required to work independently and be self-critical in the evaluation of risks, experimental procedures and outcomes
- The ability to use an understanding of the limits of accuracy of experimental data to inform the planning of future work.

Generic skills
- communication skills, covering both written and oral communication
- problem-solving skills, relating to qualitative and quantitative information
- numeracy and mathematical skills, including such aspects as error analysis order-of-magnitude estimations, correct use of units and modes of data presentation
- information retrieval skills, in relation to primary and secondary information sources, including information retrieval through online computer searches
- IT skills
- interpersonal skills, relating to the ability to interact with other people and to engage in teamworking
- time management and organisational skills, as evidenced by the ability to plan and implement efficient and effective modes of working
- skills needed to undertake appropriate further training of a professional nature.
- problem-solving skills including the demonstration of self-direction and originality
- the ability to communicate and interact with professionals from other disciplines
- the ability to exercise initiative and personal responsibility
- the ability to make decisions in complex and unpredictable situations
- independent learning ability required for continuing professional development.

All students graduating are expected to demonstrate that they have acquired the knowledge, abilities and skills in the areas identified in the foregoing sections.

- Knowledge base extends to a systematic understanding and critical awareness of topics which are informed by the forefront of the discipline
- Problems of an unfamiliar nature are tackled with appropriate methodology and taking into account the possible absence of complete data
- Experimental work is carried out independently and with some originality
- Substantial research project at the forefront of the discipline is completed effectively
- Generic skills are developed appropriately for professional practice.

11. Level(s) of programme within the Framework for Higher Education Qualifications (FHEQ)  
http://www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/quality-code-A1.aspx

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

12. Mode of Study  Full time

13. Language of Study:  English

14. Educational aims/objectives of the programme (when completing this section you may wish to indicate how the programme supports the College Mission Statement (http://www3.imperial.ac.uk/planning/strategy/strategicplan#Mission), Subject Benchmark Statements (which you have listed above), FHEQ qualification level descriptors and the requirements of Accrediting or Statutory Bodies)
The programme aims/objectives are to:

- Produce physical sciences postgraduates equipped to pursue careers at the interface between the physical and life sciences, in industry, the public sector and non-governmental organisations;
- Develop the ability to undertake research in multidisciplinary teams at this interface;
- Develop research and analytical skills related to biomolecular science with potential applications in the life sciences;
- Develop oral and written scientific presentation skills;
- Attract the most motivated physical sciences graduates, both from within the UK and from overseas;
- Develop new areas of teaching in response to the advance of scholarship and the needs of vocational training.

15. Programme Learning Outcomes

1. Knowledge and Understanding

Knowledge and Understanding of

A. Core concepts in chemical biology – essential cell biology, physical techniques in biology, systems & chemical biology, analytical tools & techniques, molecular basis of cancer, theoretical approaches to biology, imaging in chemistry and biology;
B. A selection of three of the following areas of biomolecular science – chemistry of proteins and nucleic acid, medical intervention at the molecular level, cellular signalling, trafficking, theoretical methods and instrumentation and analysis;
C. Research techniques, including information retrieval, experimental design and statistics, modelling, sampling, biomolecular techniques, molecular biology, and laboratory safety;
D. Detailed knowledge and understanding of the essential facts, concepts, principles and theories relevant to the student’s project; management and communication skills, including problem definition, project design, decision processes, teamwork, written and oral reports, scientific publications.

Teaching/learning methods and strategies

- Acquisition of the above knowledge and understanding (15.A-15.D) is through a combination of lectures, seminars, coursework and research.
- Throughout, the students are encouraged to undertake independent reading both to supplement and consolidate what is being taught/learnt and to broaden their individual knowledge and understanding of the subject.
- Assessment of the knowledge base is through a combination of unseen written examinations (15.A and 15.B) and assessed project work (15.C and 15.D).

2. Skills and other Attributes

Intellectual Skills

Able to:

E. Analyse and solve biomolecular problems using an integrated multidisciplinary approach;
F. Integrate and evaluate information;
G. Formulate and test hypotheses using appropriate experimental design and statistical analysis of data;
H. Plan, conduct and write-up a programme of original research.

Teaching/learning methods and strategies

- Intellectual skills are developed through the teaching and learning methods outlined above under Knowledge and Understanding.
Experimental design and statistical skills are developed in lectures and subsequently in the individual research project. Individual, formative and summative feedback is given to students by the project team. The feedback on the literature survey submitted in January provides important summative feedback on student progress.

Assessment is through literature report, unseen written examinations and the individual research project.

**Practical Skills**

Able to:

- I. plan and execute safely a series of experiments;
- J. use laboratory–based methods to generate data;
- K. analyse experimental results and determine their strength and validity;
- L. prepare technical reports;
- M. give technical presentations;
- N. use the scientific literature effectively;
- O. use computational tools and packages.

**Professional Skills Development** (initiative, group work, independent thought etc.):

Able to:

- P. communicate effectively through oral presentations, computer processing and presentations, written reports and scientific publications;
- Q. apply statistical and modelling skills;
- R. management skills: decision processes, objective criteria, problem definition, project design and evaluation, risk management, teamwork and coordination;
- S. integrate and evaluate information from a variety of sources;
- T. transfer techniques and solutions from one discipline to another;
- U. use Information and Communications Technology;
- V. manage resources and time;
- W. learn independently with open-mindedness and critical enquiry;
- X. learn effectively for the purpose of continuing professional development.

Teaching/learning methods and strategies

- Transferable skills are developed through the teaching and learning programme outlined above and in the Knowledge and Understanding section.
- Skill 15.P is taught through coursework and developed through feedback on assessed reports and oral presentations.
- Skill 15.Q is taught through lectures and practical work and developed, as appropriate, during individual research project.
- Skill 15.R is developed in the bi-weekly research team meetings.
- Skill 15.S is developed through feedback on a literature report.
- Skill 15.T is a core activity of the research projects and is additionally taught in lectures.
- Skill 15.U is taught in lectures developed through project work and individual learning.
- Skill 15.V is developed throughout the course within a framework of staged coursework deadlines.
- Although not explicitly taught, skills 15.W and 15.X are encouraged and developed throughout the course, which is structured and delivered in such a way as to promote this.
- 15.P to 15.X are all assessed in the student’s research project and literature survey.

In addition to the training embedded in the programme, the Graduate School runs a Professional Development Skills programme for Master’s 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

- Student Handbook for Course approved by Senate of Imperial College
- Programme description in the EPSRC grant proposal which funds the course

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

The programme is only offered as a full-time, one-year course and leads to the MRes degree. Students begin their lecture programme with core courses mostly in the first term (October-December) and follow this up in second term (January-March) with optional courses. The taught courses are examined in January. In the second term students also participate in a weekly Journal Club. In October students choose a 9 month (January-September) multidisciplinary research project. They present a literature report on the topic of their research in December and a final report and talk on the research in September. This is followed by an oral examination of the manuscript. The overall pass mark is 50% and the percentage weighting of marks contributing to the degree are given in the following table:

<table>
<thead>
<tr>
<th>Assessed Component</th>
<th>Taught Element (25%)</th>
<th>Percentage weighting of marks contributing to degree</th>
<th>Research Element (75%)</th>
<th>Percentage weighting of marks contributing to degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Examinations</td>
<td></td>
<td>10 %</td>
<td>Research Proposal</td>
<td>10 %</td>
</tr>
<tr>
<td>Group Learning Seminars</td>
<td></td>
<td>5 %</td>
<td>MRes manuscript</td>
<td>50 %</td>
</tr>
<tr>
<td>Biochemistry Practical</td>
<td></td>
<td>5 %</td>
<td>MRes conference</td>
<td>5 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Presentation</td>
<td></td>
</tr>
<tr>
<td>Journal Club</td>
<td></td>
<td>5 %</td>
<td>Oral Viva</td>
<td>10 %</td>
</tr>
</tbody>
</table>

The ECTS assigned to the course is given in the following table with 90 total ECTS for the course:

<table>
<thead>
<tr>
<th>Course Element</th>
<th>ECTS Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taught (2 written examinations, Journal Club and Group Learning Seminars)</td>
<td>16</td>
</tr>
<tr>
<td>Research (Literature Report, MRes manuscript, conference presentation and Oral Viva)</td>
<td>74</td>
</tr>
</tbody>
</table>
### Year one

**Term one:**
Students choose a research project after discussion with academic staff during the first two weeks of the course. Each research project has at least one physical and one life sciences supervisor. Under the guidance of their supervisors, students write a literature report and research proposal for submission at the end of term. Students begin their taught lecture programme with 8 core courses, which cover the following topics: Introduction to Cell Biology, Chemical Biology and Enzymology, Analytical Tools & Techniques, Physical Techniques in Biology, Molecular Basis of Cancer, Theoretical Approaches to Biology, Imaging in Chemistry & Biology, Single Cell Technologies.

**Term Two:**
At the beginning of the spring term students are examined in two written examination papers (Paper 1 is 2 hours and Paper 2 is 1.5 hours) on the core lecture courses. Following the examinations, students begin their research project in the laboratory. The students also present their project summary to each other in an afternoon seminar in January. Students must choose and attend two elective lecture courses given in this term (these are non-examinable). Courses are selected after discussion with their project supervisors. Students also attend Journal Club meetings which take place in this term. Journal Club is an assessed transferable skills course, which aims to develop presentation skills, whilst encouraging scientific debate, and providing the opportunity to broaden scientific knowledge. At each meeting students will work together in a group and make a presentation about a seminal high impact paper. This will be followed by a chaired discussion/debate about the paper. Students are assessed on their ability to organise the presentation in a logical manner, the use of clear power-point slides, the clarity of the presentation and its scientific content.

**Term Three:**
The students will continue to work on their research projects. Students present their research findings at a one-day MRes Conference held at the beginning of September. The research projects will be finished and the MRes manuscript will be handed in at the beginning of September. Project assessment is based on the MRes conference talk, a written MRes manuscript, and the oral examination with Internal examiners as well as an external examiner in mid-September. Students may also have a viva on their project along with other aspects of the course with the External Examiners. This takes place prior to the MRes Examination Board meeting in late September.

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

**Departmental/Course Induction Programme:**
Students attend an Induction Session by the Course Directors in the first week of term. At the induction, students receive a copy of the MRes Student Handbook, which includes course details and assessment guidelines for Literature Report and MRes thesis, as well as the lecture course timetable. Course Directors explain the course structure and assessment methods to the students.

- Students are given a Day One Safety Induction by the Course Directors.
Departmental Facilities:
Staff:student ratios for research training of 2:1 or greater.
- A large community of postgraduate research students and postdoctoral research workers working in the Institute of Chemical Biology at Imperial College.
- Students attend Institute of Chemical Biology colloquia twice a year, where visiting speakers are invited to give a variety of talks within the research area of Chemical Biology.
- Dedicated student computing facilities in the Chemistry and Biological Sciences Departments.
- Extensive research facilities for biophysical and biochemical research

Departmental/Course Feedback Policy:
- A postgraduate staff - student committee, which meets three times per year.
- Students attend a Chemical Biology Centre informal lunch once a term.
- In addition to the Departmental Postgraduate Senior Tutor, a Personal Tutor is assigned to each student who assists students with personal problems and advise on pastoral and academic issues. The Course Directors are also available to assist students.
- Student email and open personal access to staff including the Course Directors.
- Access to student counsellors on the South Kensington site.
- Access to Teaching and Learning Support Services, which provide assistance and guidance, e.g. on careers and English language support.

Welfare and Pastoral Care:
College student welfare services are the responsibility of the Dean of Students, Learning and Teaching who manages the Head of the Student Counselling Service, the Head of the Disability Advisory Service, the College Tutors and the Hall Wardens. The Dean of Students, Learning and Teaching 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.
- In addition to the Departmental Postgraduate Senior Tutor, a Personal Tutor is assigned to each student who assists students with personal problems and advice on pastoral and academic issues. The Course Directors are also available to assist students.

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 Programme
The English Language Support Programme (ELSP) 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
The minimum qualification for admission is normally an upper Second Class Honours degree in a Physical Sciences-based subject from an UK academic institution or an equivalent overseas qualification.
- Where an applicant has a lesser degree qualification but has presented well at interview, a special cases for admission may be submitted to the Dean of the Royal College of Science by the Course Director.
20. Processes used to Select Students

- All UK applicants (and where possible overseas applicants) are invited to Imperial College for a site tour and interview.
- All overseas applicants will be interviewed by telephone.
- Offers made to students are initiated by Course Directors.

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.

The Faculty Studies Committees and the Graduate Schools’ Postgraduate Quality Committees review and consider the reports of external examiners and accrediting bodies and conduct periodic (normally quinquennial) and internal reviews of teaching provision. Regular reviews ensure that there is opportunity to highlight examples of good practice and ensure that recommendations for improvement can be made.

At programme level, the Head of Department/Division has overall responsibility for academic standards and the quality of the educational experience delivered within the department or division. Postgraduate Staff – Student Committee, held each term, will report to Departmental Teaching Committee.

The course is also reviewed by EPSRC every year and there are peer review of lectures at random intervals.

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 Strategic Education Committee includes representatives of academic staff and academic support services. The SEC has four Committees reporting to it: the e-Learning Strategy Committee (e-LSC), the Strategic Humanities Committee, the Graduate Education Strategy Committee and the Recruitment and Admissions Strategy and Policy Committee (RASPC), which also reports to the SRC). The SEC reports to the Management Board and also submits regular reports to Senate for information and is responsible for in developing and implementing the College’s educational strategy.

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

The Faculty Studies Committees and the Graduate School Master’s Quality Committees are the major vehicle for the quality assurance of undergraduate / Master’s 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:

- Postgraduate Staff – Student Committee.
- Meetings with project supervisors.
- Meetings with Course Directors.

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:

- Taught Core Courses Anonymous Feedback Forms.
- PG SOLE (Master’s student online evaluation exercise)
- Postgraduate Staff – Student Committee.
- Meetings with project supervisors.
- Meetings with Course Directors.
- Viva with External Examiner.
- Direct feedback to External Examiner at External Examiner's Meeting

Actions taken as a result of the student’s comments will be sent to the students by email.

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 are normally chaired by a student who will liaise with the Department and fellow students to agree an agenda for the meeting in advance.

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

- Postgraduate Staff – Student Committee.
- Direct feedback to External Examiner at External Examiner's Meeting
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:**

- Development of multidisciplinary research programmes between life science and physical science researchers.
- Staff appraisal scheme and institutional staff development courses.

22. **Regulation of Assessment**

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

For **Master's programmes:**

The Pass Mark for Master's programmes is 50%. In order to be awarded a result of merit, a candidate must obtain an aggregate mark of 60% or greater; a result of distinction requires an aggregate mark of 70% or greater.

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](http://www3.imperial.ac.uk/chemicalbiology/doctoraltrainingcentre/phd).

The marking scheme for this programme is available in the student handbook found at: [http://www3.imperial.ac.uk/chemicalbiology/doctoraltrainingcentre/phd](http://www3.imperial.ac.uk/chemicalbiology/doctoraltrainingcentre/phd).

b) **Processes for dealing with mitigating circumstances:**

[The College's Extenuating Circumstances Affecting Academic Performance: Policy and Procedures](http://www3.imperial.ac.uk/chemicalbiology/doctoraltrainingcentre/phd) 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 Rector and President. The reports are scrutinised by the Pro-Rector (Education) and by the Registry QA team to identify any points of concern. These are then referred to the HOD 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 MQC, 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 2011-12 external examiner reports, and the departmental responses to them, are available on the College’s intranet.

23. Indicators of Quality and Standards
The External Examiner writes a report which is passed to the Executive Committee of the Graduate School of Engineering and Physical Sciences (GSEPS), the Head of the Chemistry Department, and the MRes course director/coordinator for comments and action if required.

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

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

MRes course booklet (http://www.imperial.ac.uk/chemistry/postgraduate/mres-courses/chemical-biology/).