Programme Title: Intercalated BSc in Experimental Pathology

Programme Specification (UG)

Awarding body / institution:	Queen Mary University of London
Teaching institution:	Queen Mary University of London
Name of award and field of study:	iBSc Experimental Pathology
Name of interim award(s):	N/A
Duration of study / period of registration:	1 academic year
QMUL programme code / UCAS code(s):	UBZF QMICMS1 Route Code USEXP
QAA Benchmark Group:	
FHEQ Level of Award :	Level 6
Programme accredited by:	N/A
Date Programme Specification approved:	13/01/2025 (By Chair's Action)
Responsible School / Institute:	Blizard Institute

Schools / Institutes which will also be involved in teaching part of the programme:

School of Biological and Behavioural Sciences

Collaborative institution(s) / organisation(s) involved in delivering the programme:

Programme outline

Pathology can be described as the study of disease. To understand the disease state, it is essential to understand the normal processes of the body. This programme offers learning in specific areas of pathology covering some of the major afflictions of the modern world. This includes neurodegenerative diseases and cancer. Modules on stem cells and personalised medicine are also offered. This programme emphasises the importance of research and experimentation in the advance of our understanding of pathological disorders and how this and the latest developments in technology can be utilised for the benefit of the patient. Students will gain an in depth grounding in the science behind specific pathologies and gain skills in experimentation and presentation on completion of the programme.

Students will gain knowledge and insight for analysis, synthesis and evaluation of areas of pathology cited above. This will amount to an ability to analyse and appraise information and data, to breakdown complex issues associated with pathology and to compare and contrast alternative view points on clinical and scientific concepts as and when they arise. The projects allow students to construct and develop novel ideas. They also promote training in how to plan, organise and where necessary reconstruct a programme of work over a six month time period. The final report will require appraisal and evaluation of experimental procedure and data, the construction of new hypotheses and their subsequent defence and justification. This will require, in part, the skill to estimate and thus discriminate the important aspects of their work from that which is less relevant to

their conclusions and designs for future work.

Aims of the programme

The aims of this programme are to furnish our students with a thorough grounding in specific areas of experimental pathology. As students progress through the MBBS programme, it is our aim for this intercalated degree to reinforce the biology and science behind clinical practice and to establish a more profound understanding of the value of research in the doctors of tomorrow. Our aim is to instill an in-depth knowledge of pathology by introducing our students to neuropathology and cancer biology and the role of stem cell technologies, and personalised medicine. It is our intention that by the end of the programme, our students will appreciate the importance of experimentation and technological innovation in modern medicine, that they will have gained a range of practical skills from pursuing one of our projects and that they will be more proficient in transferable skills such as project writing, oral presentation, working as a team member and be encouraged in the pursuit of independent learning. Our students will be prepared also for the rigors of studying for a higher degree, should they choose to do so, later in their careers.

What will you be expected to achieve?

You will be expected to achieve high levels of knowledge of key areas of pathology, you will be equipped with the skills to handle and present complex scientific data and return to medicine with a skills set that will benefit you and your patients.

Please note that the following information is only applicable to students who commenced their Level 4 studies in 2017/18, or 2018/19

In each year of undergraduate study, students are required to study modules to the value of at least 10 credits, which align to one or more of the following themes:

- networking
- multi- and inter-disciplinarity
- international perspectives
- enterprising perspectives.

These modules will be identified through the Module Directory, and / or by your School or Institute as your studies progress.

Academic Content:	
A1	Develop in depth knowledge of some of the pathologies associated with cancer and neuroscience
A2	Develop in depth understanding of regenerative medicine concerning stem cells and genome engineering
A3	Develop an in-depth understanding of personalised medicine especially on biomarkers.
A4	To be able to critically analyse and discuss pathologies and treatments

A 5	Comprehend molecular and cellular techniques important in these fields

Disciplinary Skills - able to:	
B 1	Apply cognitive skills to the role of pathology in describing the natural history of disease.
B 2	Evaluate and interpret the way in which disturbances in the homeostatic control mechanisms, that maintain normal healthy function, can lead to disease
B 3	Conduct a research project under supervision, collate, analyse and interpret data and to present it orally and in written format, in a logical and coherent manner
B 4	To acquire and put to use a range of transferable skills required for the clinical research environment e.g. planning, teamworking, responsibility, professional integrity, honesty and self-confidence.
B 5	gain sufficient insight for analysis, synthesis and evaluation of knowledge gained in disorders
B 6	acquire an ability to analyse and appraise information and data
B 7	compare and contrast alternative view points on clinical and scientific issues in diseases
B 8	acquire an ability for appraisal and evaluation of experimental procedure and data
B 9	construct new hypotheses and subsequently defend and justify them
B 10	evaluate and judge the information and insights gained on the programme

Attributes:	
C 1	Able to communicate effectively by written and verbal means.
C 2	Have the capacity for independent learning, and to work independently.
C 3	Able to participate constructively as a member of a group/team, with skills to influence, negotiate and lead.
C 4	Able to evaluate the relevance, importance and reliability of the ideas of others and of different sources of information.
C 5	Have key transferable skills to help with career goals and continuing education
C 6	Able to use information for evidence-based decision-making and creative thinking.

How will you learn?

Each taught module will take place over a period of one term. Teaching is via formal lectures backed up by directed reading. The modules have tutorials/workshops to provide additional learning on specific aspects. Most of the lecturers are drawn from faculty where the emphasis of lecture content will reflect the latest research interests of the lecturer. In addition, lectures can be invited from external speakers, for instance from colleagues in the NHS.

Self-directed study in the form of preparation for scheduled sessions, revision and wider reading is a key component of this

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programme.

Sessions in experimental method and design, core laboratory methods, statistical analysis plus workshops in project writing and examination answer writing complement the formal learning and are designed to enrich the learning process (non credit-bearing)

At least half the learning time will be spent on a research project. Students are being taught specific research protocols by members of the respective research group. It is expected that students will work independantly after initial training. Additional support will be provided concerning presentation and in dissertation writing (via feedback and a workshop).

How will you be assessed?

Taught modules will be assessed by a variety of methods to test the learning outcomes and these can include coursework and examination. The project will be assessed solely by coursework.

How is the programme structured?

Please specify the structure of the programme diets for all variants of the programme (e.g. full-time, part-time - if applicable). The description should be sufficiently detailed to fully define the structure of the diet.

This is a one academic year full time programme.

It requires 120 credits, in total, made up by studying four compulsory taught modules, which are15 credits each plus successful completion of a research project of 60 credits.

Academic Year of Study FT - Year 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Cancer Biology	BMD381	15	6	Compulsory	1	Semester 1
Stem Cells and Regenerative Medicine	BMD363	15	6	Compulsory	1	Semester 1
Molecular Basis of Personalised Medicine	BMD383	15	6	Compulsory	1	Semester 2
Perspectives on Brain Disorders	BMD369	15	6	Compulsory	1	Semester 2

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Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Experimental Pathology Project	ICM6024	60	6	Core	1	Semesters 1 & 2

What are the entry requirements?

This is successful completion of all aspects of year2, year 3 or year 4 MBBS, BDS degrees or veterinary degrees.

Overseas students must have English Language proficiency of IELTS score of 6.5 or equivalent.

How will the quality of the programme be managed and enhanced? How do we listen to and act on your feedback?

The Student Voice Committee provides a formal means of communication and discussion between schools/institutes and its students. The committee consists of student representatives from each year in the school/institute together with appropriate representation from staff within the school/institute. It is designed to respond to the needs of students, as well as act as a forum for discussing programme and module developments. Student Voice Committees meet regularly throughout the year.

Each school/institute operates a Learning and Teaching Committee, or equivalent, which advises the institute director of education and institute director on all matters relating to the delivery of taught programmes at school level including monitoring the application of relevant QM policies and reviewing all proposals for module and programme approval and amendment before submission to Taught Programmes Board. Student views are incorporated in the committee's work in a number of ways, such as through student membership, or consideration of student surveys.

All schools/institutes operate a Programme Review (PR) of their taught undergraduate and postgraduate provision. PR is a continuous process of reflection and action planning which is owned by those responsible for programme delivery; the main document of reference for this process is the Taught Programmes Action Plan (TPAP) which is the summary of the school/institute's work throughout the year to monitor academic standards and to improve the student experience. Students' views are considered in this process through analysis of the NSS and module experience survey's.

What academic support is available?

The programme director gives two formal introductory sessions and one informal session in the first two weeks of the programme. All aspects of the programme are described in depth and there is a questions and answers session as part of this induction.

Lectures in core laboratory methods, including statistics, and workshops on scientific writing provides formal academic support for the core subjects under assessment.

Personal support for individuals is provided by module leads. Personal mentoring is provided by project supervisors and the programme director has an open-door policy towards any problems relating to academic progress or pastoral issues that arise from time to time. Advisor meetings are scheduled throughout the year.

How inclusive is the programme for all students, including those with disabilities?

Queen Mary has a central Disability and Dyslexia Service (DDS) that offers support for all students with disabilities, specific learning difficulties and mental health issues. The DDS supports all Queen Mary students: full-time, part-time, undergraduate, postgraduate, UK and international at all campuses and all sites.

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Students can access advice, guidance and support in the following areas:
• Finding out if you have a specific learning difficulty like dyslexia
• Applying for funding through the Disabled Students' Allowance (DSA)
• Arranging DSA assessments of need
• Special arrangements in examinations
• Accessing loaned equipment (e.g. digital recorders)
• Specialist one-to-one "study skills" tuition
• Ensuring access to programme materials in alternative formats (e.g. Braille)
• Providing educational support workers (e.g. note-takers, readers, library assistants)
• Mentoring support for students with mental health issues and conditions on the autistic spectrum.

Programme-specific rules and facts

Links with employers, placement opportunities and transferable skills

Students will meet subject specialists within the taught module and research staff as part of their project. Students will hone their critical thinking skills, teamworking skills and will gain a number of research/lab based skills.

Programme Specification Approval

Person completing Programme Specification:	Jurgen Groet
Person responsible for management of programme:	Jurgen Groet
Date Programme Specification produced / amended by School / Institute Education Committee:	18 Nov 2024
Date Programme Specification approved by Taught Programmes Board:	13/01/2025 (By Chair's Action)

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