

Programme Title: BSc (Intercalated) Neuroscience



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 Neuroscience
Name of interim award(s):	Not applicable
Duration of study / period of registration:	1 Year
QMUL programme code / UCAS code(s):	USNEU - B9MW
QAA Benchmark Group:	
FHEQ Level of Award :	Level 6
Programme accredited by:	
Date Programme Specification approved:	
Responsible School / Institute:	Blizard Institute

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

Blizard Institute

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

Programme outline

Neuroscience is an exciting and rapidly developing field, both in terms of understanding the functioning of the nervous system and the development of treatments for neurological and psychiatric disorders. This programme will provide systematic understanding of the anatomical, physiological, biochemical and molecular processes key in functioning of the normal nervous system and current thought on how these are altered in specific disease states. The programme consists of five taught modules and a research project; Stem Cells and Regenerative Medicine, Disconnected Pathways- Disorders of Spinal Systems, Biomarkers in Neuroscience, Core Laboratory Methods, Brain and Mind- Disorders of Supraspinal Systems

Taught course modules are worth 15 credits each for a total of 75 credits and the Research Project module makes up the final 45 credits of the 120 credit programme.

Aims of the programme

This programme aims to provide training in specific skills in experimental neuroscience as well as transferable skills highly relevant to students' chosen careers as medical professionals, scholars and scientists. It aims to develop the ability of students to critically appraise research and to utilise an in-depth approach to the synthesis of information from a variety of sources. It will enable students to develop a detailed knowledge of complex concepts in neuroscience particularly related to unmet clinical

needs. The students will develop ability to formulate hypotheses based on current thinking in the field of neuroscience and independent initiative and select the means with which to best test these ideas. In undertaking a research project, students will gain valuable experience in the design of experimental work, group negotiation, observational skills and data handling. Students will develop the skills to present with clarity, in both written and oral formats, background information on selected research topics and data from both their own and others' work to specialist and non-specialist audiences.

The clinical need for quality translational research in neuroscience-related disciplines is high and therefore scope for such research is extensive. The fostering of interest and acquisition of knowledge in modern medical neuroscience research and development of requisite skills therein will be of benefit to many students pursuing careers as practitioners and scientists in a wide range of medical, dental as well as veterinary specialties.

What will you be expected to achieve?

Students who successfully complete the programme will have knowledge and understanding of the topics outlined immediately below, as well as the skills and attributes described in the subsequent sections:

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:	
A 1	A systematic understanding of how cellular interactions in the nervous system contribute to function both in health and disease.
A 2	Knowledge and insight of molecular mechanisms controlling neural function and those crucial to neurotransmission and plasticity
A 3	Conceptual understanding of the biological mechanisms underlying diseases of the nervous system, including lesions of peripheral and central sites, to enable the proposal of alternative therapeutic strategies
A 4	Critical evaluation of experimental techniques and models used in neuroscience research considering ethical concerns and limitations

Disciplinary Skills - able to:	
B 1	Integrate information from a variety of sources to construct a coherent thesis on a scientific topic
B 2	Critically appraise and analyse scientific literature, judge and interpret findings
B 3	Construct hypotheses pertinent to the experimental exploration of topical questions in the field of medical neuroscience
B 4	Design appropriate experiments to test a hypothesis
B 5	Analyse and evaluate/interpret the results of controlled experiments.
B 6	Evaluate the significance of experimental results in the context of previous work
B 7	Explore in depth a specific area of neuroscience research including experimental work and construct a dissertation on the project
B 8	Display skill in summarising and disseminating results in oral and written communication

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 a critical awareness of the role and impact of science in society, including the global perspective.
C 6	Able to use information for evidence-based decision-making and creative thinking.

How will you learn?

Learning strategy:

- Formal lectures given by experts in the field form a foundation for self directed learning. Students will be encouraged to be proactive and expected to identify areas from materials presented to further explore and develop through reading of reviews and primary literature.
- Clinical perspective lectures will act to highlight roles of clinical research and need for translational research in neuroscience.
- Practical sessions covering distinct experimental approaches (i.e cell culture, anatomical studies, electrophysiology etc...) will provide exposure and hands-on experience with a range of valuable techniques
- A series of workshops on writing and learning will encourage student reflection and good practice with regard to reading and learning strategies and communication in written format
- Through lecture and workshops, students will learn how to approach statistical analysis of data and how to access and utilise information technology to facilitate such analysis.
- In the research project, students will be assigned supervisors who will guide their work in experimental design and execution, data analysis and presentation. Relevant laboratory skills will be learned. Students will encounter and must negotiate work in a multi-user facility.
- QMPlus, our virtual learning environment, will provide a forum whereby students and tutors can interact. Lecture notes and

handout material to be available electronically, with potential for discussion and question boards.

How will you be assessed?

Assessment strategy: 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. Examples of types of assessment which could be encountered are essay, critical review, examination, presentation.

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 five compulsory taught modules, which are 15 credits each plus successful completion of a research project of 45 credits. Three of the taught modules are in semester 1 (45 credits) and two in semester 2. The research project is taken in semester 2 (total 75 credits in semester 2).

Academic Year of Study FT - Year 1

Module Title	Module Code	Credits	Level	Module Selection Status	Academic Year of Study	Semester
Stem Cells and Regenerative Medicine	BMD363	15	6	Compulsory	1	Semester 1
Disconnected Pathways- Disorders of Spinal Systems	ICM6013	15	6	Compulsory	1	Semester 1
Core Laboratory Methods	ICM6015	15	6	Compulsory	1	Semester 1
Brain and Mind- Disorders of Supraspinal Systems	ICM6011	15	6	Compulsory	1	Semester 2
Biomarkers in Neuroscience	BMD365	15	6	Compulsory	1	Semester 2
Neuroscience Research Project	ICM6016	45	6	Core	1	Semester 2

What are the entry requirements?

Successful completion of year 2, year 3 or year 4 MBBS, BDS degrees or veterinary degrees. The year just prior to intercalation must also have been passed.

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 Institute 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 experience 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 surveys.

Students are asked to fill out module experience surveys which feed back student views informing course alteration and planning for subsequent modules in the same year or for the next year. Students are encouraged to provide feedback through their academic advisors and at the performance and update meetings with the programme director. External examiner feedback is also invaluable for ongoing appraisal of the programme. Response to action points raised in this feedback are incorporated into programme delivery for the next year with the aim to continually improve academic standards and student experience.

What academic support is available?

Experienced teachers and academic advisors of medical undergraduate and postgraduate students will provide teaching, academic guidance, and low level student pastoral support.

Upon admission to the programme, students will be assigned an advisor with whom they will meet regularly. Before the start of the programme students will be asked to write a formative short essay, an exercise aimed at assessing the level of the students' ability and providing a focus for reflection during Thinking and Writing workshops in the Core Laboratory Methods module. Modules begin with introductory lectures outlining their structure and aims. Induction into work in the Blizard building and the research laboratory environment is provided by Institute managers' team to ensure students are supported in their understanding of important Health and Safety issues which will be further reinforced through practical sessions and research project work.

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.

Students can access advice, guidance and support in the following areas:

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- 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 course materials in alternative formats (e.g. Braille)
- Providing educational support workers (e.g. note-takers, readers, library assistants)

Programme-specific rules and facts

Not applicable.

Links with employers, placement opportunities and transferable skills

Students can interact with academic members of staff within the Neuroscience, Surgery & Trauma Centre. Students are have the opportunity to learn about new research by attending Centre seminars . Additional clinical skills learnt by attending the Neurology Grand round.

Programme Specification Approval

Person completing Programme Specification:	Dr Ping Yip
Person responsible for management of programme:	Samantha Rose-Bucknor
Date Programme Specification produced / amended by School / Institute Education Committee:	20 Nov 2024
Date Programme Specification approved by Taught Programmes Board:	