

**PROGRAMME APPROVAL FORM  
SECTION 1 – THE PROGRAMME SPECIFICATION**

<b>1. Programme title and designation</b>		<b>MSc Neuroscience</b> <u>Pathways:</u> <ul style="list-style-type: none"> <li>• MSc Neuroscience</li> <li>• MSc Neuroscience in Psychiatric Genetics</li> <li>• MSc Neuroscience in Addiction Biology</li> <li>• MSc Neuroscience in Developmental Neurobiology</li> <li>• MSc Neuroscience in Neurodegeneration</li> <li>• MSc Neuroscience in Neuroimaging</li> <li>• MSc Neuroscience in Brain Connectivity and Tractography</li> <li>• MSc Neuroscience in Cognitive Neuroscience</li> <li>• MSc Neuroscience in Neural Stem Cells and Nervous System Repair</li> </ul>		
<b>2. Final award</b>				
<b>Award</b>	<b>Title</b>	<b>Credit value</b>	<b>ECTS equivalent</b>	<b>Any special criteria</b>
MSc	Neuroscience	180	90	N/A
MSc	Neuroscience in Psychiatric Genetics	180	90	N/A
MSc	Neuroscience in Addiction Biology	180	90	N/A
MSc	Neuroscience in Developmental Neurobiology	180	90	N/A
MSc	Neuroscience in Neurodegeneration	180	90	N/A
MSc	Neuroscience in Neuroimaging	180	90	N/A
MSc	Neuroscience in Brain Connectivity and Tractography	180	90	N/A
MSc	MSc Neuroscience in Cognitive Neuroscience	180	90	N/A
MSc	MSc Neuroscience in Neural Stem Cells and Nervous System Repair	180	90	N/A
<b>3. Nested awards</b>				

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<b>Award</b>	<b>Title</b>	<b>Credit value</b>	<b>ECTS equivalent</b>	<b>Any special criteria</b>
N/A	N/A	N/A	N/A	N/A
<b>4. Exit awards</b>				
<b>Award</b>	<b>Title</b>	<b>Credit value</b>	<b>ECTS equivalent</b>	<b>Any special criteria</b>
PgDip	Neuroscience	120	60	Students must obtain a 120 credits (excluding the project report)
PGCert	Neuroscience	60	30	Students must obtain a 60 or 90 credits (excluding the project report)
<b>5. Level in the qualifications framework</b>			M	
<b>6. Attendance</b>				
		<b>Full-time</b>	<b>Part-time</b>	<b>Distance learning</b>
Mode of attendance		Yes	Yes	N/A
Minimum length of programme		12 months	24 months	N/A
Maximum length of programme		72 months	72 months	N/A

<b>7. Awarding institution/body</b>	King's College London
<b>8. Teaching institution</b>	King's College London
<b>9. Proposing department</b>	Department of Basic and Clinical Neuroscience, Institute of Psychiatry, Psychology and Neuroscience
<b>10. Programme organiser and contact Details</b>	Dr John Stephenson Extn. 0374 <a href="mailto:john.stephenson@kcl.ac.uk">john.stephenson@kcl.ac.uk</a>
<b>11. UCAS code (if appropriate)</b>	N/A
<b>12. Relevant QAA subject benchmark/ Professional, statutory and regulatory body guidelines</b>	At this time there are no specific benchmarks for postgraduate neuroscience, but the programme is informed by knowledge of the QAA benchmarks for undergraduate programmes in the Biosciences
<b>13. Date of production of specification</b>	July 2014. This revision is to add a new pathway and the associated modules (B8 and C8) and to amend the title of a pathway and the two associated modules (B6 and C6) of the specification first approved in June 2006 and amended in 2009 and 2011.
<b>14. Date of last programme review</b>	16/05/2013

<b>16. Educational aims of the programme</b> <i>i.e what is the purpose of the programme and general statements about the learning that takes place over the duration of the programme</i>
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The programme provides multidisciplinary postgraduate training in a range of neuroscience topics, especially those relevant to psychiatry and neurology, in three compulsory modules that cover the broad range of subject areas that are considered fundamental to an understanding of neuroscience.

These subjects include:

- |                                       |                                 |
|---------------------------------------|---------------------------------|
| (i) neuroanatomy and neuropathology   | (ii) cell biology               |
| (iii) neurotransmission               | (iv) cell signalling            |
| (v) neurogenetics                     | (vi) developmental neurobiology |
| (vii) neuronal plasticity             | (viii) neuroimmunology          |
| (ix) systems neuroscience             | (x) addiction biology           |
| (xi) neuropsychology of mental health | (xii) neuroimaging              |
| (xiii) neurodegeneration              |                                 |

It then aims to provide either:

- more specialised training in one of the above subject areas by allowing students to select a specialised taught module that focuses on one of the above subject areas and then to choose a research project in the same subject area. Initially, the specialised modules will be in neurodegeneration, developmental neurobiology, neuroimaging and addiction sciences and students following this pathway will be awarded an MSc in Neuroscience in the particular subject area, or;
- further training in each of the subject areas (i) to (xii) in a taught non-specialised module. Students choosing this option and a research project in any of these subject areas or, choosing a specialised taught module and a research project in a different subject area will be awarded an MSc in Neuroscience.

Acquisition of practical training and analytical skills are obtained primarily through the research projects and demonstrated through the research report and laboratory notebook. Transferable skills are acquired through a variety of exercises, e.g. by presenting analyses of published papers and/or chosen topics in class presentations and the presentation of research data in the form of a research report and poster. Together, these activities demonstrate that students have the training to justify, critically appraise, analyse and comment on their future research and clinical activities.

The programme seeks to increase students' neuroscience knowledge and understanding, especially of those students wishing to convert from their original degree discipline and to equip them to apply it in their future research or clinical activity.

On completion of the compulsory Fundamental Neuroscience modules (modules A1, A2 and A3), all students will have a good understanding of the above subject areas, that will be sufficient for them to understand new developments in these areas and to understand their relevance to their own research. Thus, they will have a sound understanding of the main research methods used in investigating both normal and abnormal brain function. They will be able to integrate knowledge of actions at the molecular, cellular and systems levels and to relate it to normal behaviour and to behaviour in psychiatric and neurological conditions.

The specialisations are aimed to provide students with the necessary knowledge and practical skills for them to pursue research careers in the subject area of their chosen specialisation with the minimum of further training, e.g. in neuroimaging research, by providing students with an understanding of the instrumentation, acquisition of data and its analysis and applications and practical experience of these items in a research project.

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**17. Educational objectives of the programme/programme outcomes** (as relevant to the SEEC Credit Level Descriptors)

The programme provide a stimulating environment for students to develop their full academic potential and demonstrate knowledge and understanding and skills in the following areas:

**Knowledge and understanding**

The programme provides a **knowledge and understanding** of:

- The wide range of subjects that are relevant to a full understanding of the theoretical bases of neurological and psychiatric conditions is provided by the 3 fundamental modules and, a deeper understanding of one particular specialism within neuroscience is provided by the optional module.
- The ability to extract, integrate and evaluate information from a variety of sources in order to identify and formulate appropriate research questions and then, to select the most appropriate research techniques to investigate the particular research question is provided by the research project
- The ethical/licencing/regulatory issues that are pertinent to basic and clinical neuroscience research

These are achieved through the following **teaching/learning methods and strategies**:

Teaching and learning opportunities are provided;

- primarily through a combination of didactic lectures supported by
- interactive seminars
- tutorials/presentations

and by individual training in

- the laboratory skills required to conduct and document a supervised research project and,
- in the writing of an original and critical report

**Assessment:**

Testing of knowledge and understanding is through a combination of formative and summative assessment. Specifically:

**Formative Assessment:** This is achieved through class/group tutorials and presentations, discussion on the written answers to questions in a mock examination and, the written feedback provided on the coursework essays

**Summative Assessment:**

- 4 timed written examination papers:
- 3 coursework essays and a 250 word abstract written to accompany a published paper given unseen to the students without the abstract
- research project report, laboratory notebook (incl. conduct in the laboratory) and oral examination of a poster presentation.

**Skills and other attributes**

**Intellectual skills:**

The programme provides students with an understanding of how a hypothesis driven science progresses

These are achieved through the following **teaching/learning methods and strategies**:

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and how competing/ conflicting hypotheses/ theories might be resolved by enabling students to

- select appropriate theories
- formulate hypotheses, design and carry out experiments, and then;
- analyse, interpret and present the complex results in the context of current literature.
- to communicate the findings of scientific experiments in oral and written formats.

These skills will enable students to undertake postgraduate research in several neuroscience research areas.

- Didactic lectures and participation in tutorials
- The ability to self-learn
- Oral presentation to, and discussion with, other students and a lecturer of research papers and problem-solving scenarios
- Design and execution of experimental protocols in the context of a supervised research project.
- A project report and defending a poster presentation

**Formative Assessment:** This is aided by class/group tutorials and presentations, discussion on the written answers to questions in a mock examination and, the written feedback provided on the coursework essays

**Summative assessment** of understanding neuroscience topics is evaluated through:

- the coursework essays and project report
- Oral defence of the poster

**Practical skills:**

- The ability to retrieve, sift and select information from a variety of electronic and written sources
- Competency in a limited range of advanced research techniques and basic understanding of a wider range
- The ability to analyse and interpret research data
- The ability to generate experimental hypotheses and to design experiments to test the hypotheses
- Computer skills including database mining/bioinformatics, PowerPoint presentations, spreadsheets and databases, statistical analysis.
- The ability to present the ideas underlying the project design orally and in written (poster and report) formats

These are achieved through the following **teaching/learning methods and strategies:**

- Techniques lectures
- A supervised research project during which students are trained in relevant research techniques, learn about problem solving and gain research knowledge from their supervisors.
- Development of IT skills and use of project-specific analytical software and statistical software for data analysis
- Analysing project results and presenting them in written and poster format

**Assessment:**

- A poster presentation and its oral defence

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- Working as a member of a team in group presentations and in the research project

- Project report and day-to-day laboratory book

**Generic/transferable skills:**

- Conducting literature searches and being able to evaluate the logical strength of different arguments.
- Research design and implementation
- Management and organisation of a supervised research project
- Working with other students toward a common goal in a team (preparation of group posters and oral presentations) and acquiring the ability to respect other points of view and the value of intellectual discourse
- Report writing
- Design and presentation of a poster
- To communicate information to , and discuss it with, other students and lecturers
- Bioinformatics
- Computer skills, e-mail, word processing, database mining, PowerPoint presentations, spreadsheets, statistical analysis

These are achieved through the following **teaching/learning methods and strategies:**

- Lectures and tutorials
- Presentations, both individual and group, to other students and then to respond to their questioning.
- Direct instruction and supervision
- Self-directed learning informed by discussion with lecturers and research supervisors.

**Assessment:**

- Through the carrying out of a research project and writing it up in a research report
- Preparing a poster and defending it to the examiners
- Day-to-day laboratory book

**18. Statement of how the programme has been informed by the relevant subject benchmark statement(s)/professional, statutory and regulatory body guidelines**

There are no specific benchmarks for this programme but it is informed by knowledge of the QAA benchmarks for undergraduate programmes in the Biosciences, knowledge of the curriculum for the BSc in Neuroscience at KCL and membership of the Programme Leader on the KCL Neuroscience Teaching Committee. It is also informed by knowledge of the taught content of other MSc's in Neuroscience in the UK, and of developments in Europe and North America through affiliation to the Network of European Neuroscience Schools and the Association of Neuroscience Departments and Programs.

Most of the students on the programme have a single honours degree in a subject other than neuroscience, in part because there are only a few undergraduate neuroscience programmes in the UK. Therefore, the programme cuts across traditional knowledge-based categories. While the programme takes all its students to level 7 in the different subject areas, varying amounts of the programme, depending on the students' backgrounds, may be seen as 'a conversion course', because the students will have graduated in one discipline and will acquire knowledge and skill sets in other disciplines (as allowed under 2.1 of *Academic regulations, Regulations concerning students & General Regulations 2008-9*).

**19. In cases of joint honours programmes please provide a rationale for the particular subject combination, either educational or academic**

The programme is postgraduate and therefore not a joint honours programme. However, the specialised taught modules and the specialised research projects will be taught/supervised by academics in the particular specialities and outside the lead

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(Neuroscience) Department, e.g., the specialised module in Developmental Neurobiology will be organised by members from the MRC Centre for Developmental Neurobiology, Guy's campus; the specialised taught and research modules in Neuroimaging will be organised by members of the Centre for Neuroimaging Sciences, Denmark Hill campus and the Addiction Biology module will be organised by members from the MRC Centre for Social, Genetic and Developmental Psychiatry and the Section of Addiction Biology in the Division of Psychological Medicine and Psychiatry, Denmark Hill campus.

**Which is the lead department and/or School?** Department of Neuroscience, IoP

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<b>20. Programme structure</b>	
See Programme Handbook for modules to be taken.	
<b>If a Masters programme, are level 6 credit levels permitted within the programme?</b> No. Apart from approximately 5 optional (non-assessed) introductory lectures/tutorials to cater for the students' different backgrounds, all taught material is at level 7.	
<b>Maximum number of credits permitted with a condoned fail (core modules excluded)</b>	30 credits
<b>Are students permitted to take any additional credits, as per regulation A3?</b>	No
<b>Are students permitted to take a substitute module, as per regulation A3?</b> No	
<b>Are there any exceptions to the regulations regarding credits, progression or award requirements?</b> (where relevant the information should also differentiate the particular requirements of pathways within a programme or nested/exit awards) No	
<p><b>Other relevant information to explain the programme structure</b>  <i>Please note that <u>new</u> students enrolling on the information provided on this section of the PAF will have these regulations stipulated throughout their programme of study. The only exception to this will be if there are changes made by Professional, Regulatory or Statutory Bodies that are noted to this programme.</i></p> <p>There are exit awards only and students are not able to enrol directly onto this programme at entry.</p>	

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### **21. Marking criteria**

These are according to the College guidelines for Pass, Merit and Distinction. It is planned that papers will continue to be blind, double-marked, as in the present programme. (Model 1 in the College's Marking Policy document. The programme also has clear marking guidelines that require, in the case of coursework essays, a standard marksheet to be attached to each script and annotated in order to provide formative feedback. These guidelines are publicised to students and are available on the programme's website and in the on-line handbook.

### **22. Particular features of the programme which help to reduce the barriers experienced by disabled students and ensure that the programme is accessible to all students who meet the entry requirements**

Applicants who declare a disability are automatically referred to the Institute's disability officer and, if recommended, students with disabilities will have access to alternative comparable assessment tasks. However, some research projects may not be suitable for students with certain disabilities (see below).

All the programme material including past papers, project titles, titles of lectures, timetable, programme specifications, methods of assessment, programme handbook, etc, are on the programme's public website (<http://neuroscience.iop.kcl.ac.uk/msc>) so that students interested in the programme can make an informed decision about whether the programme is likely to meet their needs.

Once students have been accepted onto the programme, they are given access to an e-learning site in Moodle where they can view Flash files of all the slides from the previous year's programme, introductory material, reading lists and other preparatory material.

Once students have enrolled, they are given access to other areas of the e-learning site where they can watch/listen to AV files of all the previous year's lectures and download pdf files of the lecture handouts. Thus students can access these recordings beforehand and prepare themselves for their updated lectures. These updated lectures are also recorded and uploaded, usually within 1-2 hours of them being given, overwriting those from the previous academic year. This facility enables students to replay all their lectures, a feature that is of considerable value to students with, for example, dyslexia, who may have difficulty taking notes during a lecture, and to students whose first language is not English. These recordings are also a valuable aid to revision and to writing coursework essays (coursework essays are submitted online, through Turnitin, removing the need for the student to visit the programme office).

There are both full-time and part-time programmes. Usually, the full-time students have only recently completed their degrees whereas part-time students tend to be in work. Some full-time students who encounter financial hardship may opt to transfer to the part-time programme.

It is foreseeable that a student with certain physical difficulties might not be able to safely carry out a laboratory-based project. In these circumstances, a student would be offered an alternative project, e.g., a computer-based project in bioinformatics or neuroimaging, or another non-laboratory based project.

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**PROGRAMME APPROVAL FORM**  
**SECTION 2 – SUPPLEMENTARY INFORMATION**

Not all of the information in this section will be relevant for all programmes and for some programmes this section will not be relevant at all

**1. Programme name**

**MSc Neuroscience**

Pathways:

MSc Neuroscience

MSc Neuroscience in Psychiatric Genetics

MSc Neuroscience in Addiction Biology

MSc Neuroscience in Developmental Neurobiology

MSc Neuroscience in Neurodegeneration

MSc Neuroscience in Neuroimaging

MSc Neuroscience in Brain Connectivity and Tractography

MSc Neuroscience in Cognitive Neuroscience

MSc Neuroscience in Neural Stem Cells and Nervous System Repair

**2. Is this programme involved in collaborative activity?**

Yes

No

If yes what type of Collaborative Provision is it (*tick appropriate box*)?

Does the programme have an access/feeder Programme for entry into it?  No

Does the programme have an articulation/ progression agreement for entry into it?  No

Dual Award  No

Franchised Provision  No

Joint Award  No

Partnership Programme  No

Recognition of Study or Award of Credit through off-campus study or placement  No

Staff and student exchange  No

Validated provision  No

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Have the relevant stages and appropriate paperwork been approved and the paperwork forwarded onto QA&AA Office?

Yes

No

Not applicable

**3. If the programme is a joint award with an institution outwith the University of London, validated provision or franchised provision, has the necessary approval been sought from College Education Committee?**

Yes

No

Not applicable

Please attach a copy of Part 1 of the Partner Profile and checklist submitted to the College Education Committee

**4. Partnership programme - in cases where parts or all of the programme are delivered away from one of the College campuses by a body or bodies external to the College please provide the following details**

Name and address of the off-campus location and external body

1. Division of Psychology and Language Sciences, Faculty of Life Sciences, University College London, Chandler House, Wakefield St., WC1N 1PF
2. Department of Biological Sciences, Faculty of Science, The Open University, Walton Hall, Milton Keynes, MK7 6AA
3. Dept. of Bioengineering, Imperial College London, Sir Leon Bagrit Centre, Mechanical Engineering Building, London SW7 2AZ
4. MRC National Survey of Health and Development & MRC Unit for Lifelong Health and Ageing, 33 Bedford Place, London WC1B 5JU
5. Regenerative Medicine, Pfizer Inc., UCB Building, Granta Park, Cambridge CB21 6GS
6. Pharmidex, Head Office: 72 New Bond Street, London, W1S 1RR

Percentage/amount of the programme delivered off-campus or by external body

1. 4h of lectures excl. revision also offers a research project
2. 10h of lectures excl. revision; also offers a research project
3. 2h of lectures excl. revision; also offers a research project
4. 2h of lectures excl revision; also offers a research project
- 5 & 6. 5h of lectures/talks

Nature of the involvement of external body

Bodies 1-4 offer specialized lectures and revision tutorials at the IoPPN and also offer research projects off-site. Bodies 5 and 6 provide lectures on drug development and discovery and advice on careers in the pharmaceutical industry.

Description of the learning resources available at the off-campus location

The above bodies offer excellent research facilities.

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What mechanisms will be put in place to ensure the ongoing monitoring of the delivery of the programme, to include monitoring of learning resources off-site or by the external body?  
All the teaching/talks take place at the IoPPN and feedback is obtained in the same way as for teaching by IoPPN staff. The off-site research labs offer excellent facilities and their research proposals are subject to the same scrutiny as projects at the IoPPN.

**Please attach the report of the visit to the off-campus location N/A**

**5. Recognition of study or award of credit through off-campus study or placement - please indicate how the time will be spent, the length of time out, the amount of credit and whether it is a compulsory or optional part of the programme**

N/A

Year abroad

Year in employment

Placement

Other (please specify)

Time spent .....Credit amount .....Compulsory/optional.....

**6. Please provide a rationale for any such time outside the College, other than that which is a requirement of a professional, statutory or regulatory body**

N/A

**5. Please give details if the programme requires validation or accreditation by a professional, statutory or regulatory body**

Name and address of PSB

N/A

Frequency of validation/ accreditation

Date of next validation/ accreditation

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