

Neuroscience

Neuroscience is one of UCL's greatest research strengths. We are ranked first in Europe and second in the world for neuroscience and behaviour by a leading science indicator. Our success depends not just upon world-class infrastructure but fundamentally upon the people who make up UCL Neuroscience. They build upon a distinguished history of neuroscience research and teaching across many UCL departments. Within the Faculty of Life Sciences, many of the neuroscience and behaviour research groups are within the Department of Neuroscience, Physiology and Pharmacology (NPP) and others are within the Department of Cell and Developmental Biology and within the Division of Psychology and Language Studies. There is a range of neuroscience research institutes within and affiliated with these Faculties.

PROGRAMME STRUCTURE

Extended Research Project

The Neuroscience IBSc draws upon UCL's leading strengths in neuroscience research and teaching. A major component of the degree is the extended research project (course code **NEUR0001**) that spans the whole of the teaching year and provides the opportunity to work within one of UCL's neuroscience research groups. To work closely with a group of dedicated research scientists is a key experience for IBSc Neuroscience students. For many, the knowledge and experience gained extends far beyond the research project itself. The opportunity to join in seminars, journal clubs and informal discussions with members of the research group usually opens up important new horizons and primes an interest in research that can be developed later.

IBSc Neuroscience students select a project and supervisor from a range of options within the NPP Department or, more widely, from associated UCL departments and institutes. The applications involve discussions between student and supervisor and all are discussed with and agreed by the programme tutor. The IBSc programme tutor and course tutor for the research project is Prof Christopher Yeo, Dept. Neuroscience, Physiology and Pharmacology (c.yeo@ucl.ac.uk). All students must have achieved an overall mark of at least 60% in the 2nd year to do a laboratory project. Admission to laboratory projects will remain at the discretion of the Project Tutor.

For some students, a library project (**NEUR0002**) is an option. The credit value of a NEUR0002 project is 30, so an additional 15 credits of taught module will be required to accompany it (see Diet details below).

Taught modules

The extended research project (**NEUR0001**) has a course unit value of 45 credits. In addition to the project, taught courses to the value of 75 credits must be selected. These may be chosen from the wide range offered by the Faculty of Life Sciences and will be according to the IBSc programme diet (see below). All course choices will be discussed and agreed by the

course tutor before the beginning of term or during induction week. Listed below is a summary of key popular taught courses for the Neuroscience IBSc programme..

THE IBSC MODULE DIET

The diet and course list are correct at the time of going to press. Details may change as new modules become available and will be announced before module selection begins.

Projects

Option 1 – An experimental research project. You may choose the **Advanced Research Project in Neuroscience (NEUR0001)** with a credit value of 45. This module covers research in all NPP Dept. laboratories and most external research projects

Option 2 – A library project. By arrangement with the programme tutor, you may choose a library project option, the **Advanced Investigative Project in Neuroscience (NEUR0002)**, with a credit value of 30. If you choose this option, then you are required to select **BIOS0024 - Investigative methods in Neuroscience, Physiology and Pharmacology - Level 6** to accompany your library project. This module has a credit value of 15. Thus, NEUR0002 plus BIOS0024 will give a combined value of 45 credits, equivalent to the credit value of NEUR0001. The BIOS0024 module will give valuable insights into and experience of a range of research skills with the opportunity to analyse real data and research problems.

Taught modules

The total assessment value of all your modules must be 120 credits. Option 1 or 2 above account for 45 credits. The remaining 75 credits will be taken up by the taught option modules, which each have a value of either 15 or 30 credits. and your choices will be according to this diet:

45 credits from LIST-1

15 credits from LIST-2 (LIST-2 also includes all modules in LIST-1)

15 credits FREE CHOICE (Includes any module in LIST-1 or LIST-2)

LIST-1

| Code | Title | Credits |
|----------|--|---------|
| NEUR0009 | Metabolic Neuroscience | 15 |
| NEUR0010 | Neurobiology of Brain Injury and Disease Extended | 30 |
| NEUR0011 | Neurobiology of Brain Injury and Disease I | 15 |
| NEUR0012 | Neurobiology of Brain Injury and Disease II | 15 |
| NEUR0013 | Topics in Neurobiology of Brain Disease and Injury | 15 |
| NEUR0014 | Neural Basis of Motivation and Learning | 15 |
| NEUR0015 | The Control of Movement | 15 |
| NEUR0016 | Neural Computation: Models of Brain Function | 15 |
| NEUR0017 | Visual Neuroscience | 15 |
| NEUR0020 | Integrative Systems Neuroscience | 15 |
| PHAR0010 | Neuropharmacology | 15 |
| PHOL0009 | The Cellular Basis of Brain Function | 30 |

(When choosing on Portico, 45 – 75 credits must come from this list)

LIST 2 - select 15 credits from this list

ANY module in LIST - 1

| | | |
|----------|---|----|
| ANAT0012 | Molecular Basis of Neuropsychiatric Disorders | 15 |
| ANAT0013 | Pain | 15 |
| BIOL0020 | Sex, Genes and Evolution | 15 |
| BIOL0022 | Biology of Ageing | 15 |
| BIOS3016 | Genes and Neurodegenerative Disease | 15 |
| CELL0001 | Mechanisms of Development | 15 |
| CELL0002 | Mechanisms of Development (Extended) | 30 |
| CELL0003 | Cellular and Developmental Neurobiology | 15 |
| CELL0004 | Clocks, Sleep and Biological Time | 15 |

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|----------|---|----|
| CELL0012 | Stem Cells and Regenerative Medicine | 15 |
| CELL0013 | Functional Genetics of Model Systems | 15 |
| CELL0014 | Dynamic Biological Systems | 15 |
| PHAR0011 | Molecular Pharmacology | 15 |
| PHAR0012 | Receptor Mechanisms | 15 |
| PHAR0015 | Psychopharmacology | 15 |
| PHAR0018 | Synaptic Pharmacology | 15 |
| PHOL0008 | Cell Signalling in Health and Disease | 15 |
| PHOL0011 | Autonomic and Central Control of Cardiorespiratory Function | 15 |

FREE CHOICE - select 15 credits from:

Any module in LIST-1 or LIST-2 (Note: you can use your FREE CHOICE (15 credit) option together with your LIST-2 (15 credit) option to enable a LIST-2 module with 30 credit value to be chosen.

A module that could be of interest is Fundamentals of Anaesthesia, Surgery and Acute Physiology SURG0124.

Neuroscience IBSc students can choose from a wide range of other ANAT, PHOL, PHARM and PSYC courses, some of which are listed below:

BIOL0020 Sex, Genes and Evolution 15 credits, BIOL0022 Biology of Ageing 15 credits, CELL0002 Mechanisms of Development 30 credits, CELL0012 Stem Cells and Regenerative Medicines 15 credits, CELL0013 Functional Genetics of Model Systems 15 credits, CELL0014 Dynamic Biological Systems 15 credits, PHAR0011 Molecular Pharmacology 15 credits, PHAR0012 Receptor Mechanisms 15 credits, PHAR0015 Psychopharmacology 15 credits, PHAR0018 Synaptic Pharmacology 15 credits, PHOL0008 Cell Signalling in Health and Disease 15 credits. Other ANAT, CELL, BIOC, BIOL, BIOS, PHAR, PHOL modules.

Modules offered by other Faculties (e.g. COMP, PSYC, PALS, HPSC) but see APPROVALS AND RESTRICTIONS.

APPROVALS - YOUR FREE CHOICE OPTION ALWAYS REQUIRES IBSC TUTOR APPROVAL.

RESTRICTIONS – some module have prerequisites and some combinations are not permitted:

NEUR0010 or NEUR0011 cannot be taken with ANAT0008 (free choice) or with BIOS0001 (free choice).

NEUR0014 cannot be taken together with PSYC0031 (free choice) or PSYC0030 (free choice) – only one out of these 3 options may be chosen.

BIOS0024 cannot be taken together with NEUR0001.

NEUR0019 has pre-requisites: MATH0101 plus STAT0021/STAT1004 or equivalent. As MBBS students, you are unlikely to have these Year 1 or Year 2 equivalents but you may have some other, significant mathematics or statistics experience so you can email the module organiser for NEUR0019 to check whether you may be eligible.

MODULE INFORMATION

The [Module Catalogue](#) stores detailed information on all modules run in the Faculty of Life Sciences and is updated regularly, so it will contain the most up-to-date details. You should consult this database when making your module choices.

Please note: Some modules in the Faculty of Life Sciences are heavily subscribed, and are therefore capped. The Module Catalogue entry indicates, for each module, whether it is capped, and if it is, the selection criteria applied.

For further information please contact the Course Tutor:

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