

PROGRAMME SPECIFICATION

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Programme title:	Physiology and Pharmacology
Final award (BSc, MA etc): (where stopping off points exist they should be detailed here and defined later in the document)	BSc (Combined Hons)
UCAS code: (where applicable)	BB12
Cohort(s) to which this programme specification is applicable: (e.g. from 2008 intake onwards)	2010
Awarding institution/body:	University College London
Teaching institution:	University College London
Faculty:	Life Sciences
Parent Department: (the department responsible for the administration of the programme)	NPP
Departmental web page address: (if applicable)	http://www.ucl.ac.uk/lifesciences-faculty/degree-programmes/physiology-pharmacology
Method of study: Full-time/Part-time/Other	Full-time
Criteria for admission to the programme:	http://www.ucl.ac.uk/lifesciences-faculty/degree-programmes/physiology-pharmacology/admissions
Length of the programme: (please note any periods spent away from UCL, such as study abroad or placements in industry)	Three years
Level on Framework for Higher Education Qualifications (FHEQ) (see Guidance notes)	H
Relevant subject benchmark statement (SBS) (see Guidance notes)	Biomedical science http://www.qaa.ac.uk/academicinfrastructure/benchmark/statements/Biomedicalsecience07.asp
Brief outline of the structure of the programme and its assessment methods: (see guidance notes)	http://www.ucl.ac.uk/lifesciences-faculty/degree-programmes/physiology-pharmacology/our-programmes

Board of Examiners:	i) Name of Board of Examiners: Board of Examiners in Physiology and Pharmacology	
Professional body accreditation (if applicable):	N/A	Date of next scheduled accreditation visit:

<p>EDUCATIONAL AIMS OF THE PROGRAMME: To recruit high calibre students from a wide variety of backgrounds and provide them with an understanding of the scientific investigation of human health and disease. The programme aims to inform students of the basic facts on which their knowledge can be built and to promote the capacity for self-education. Our teaching is informed by research and students are taught to develop the ability to evaluate critically both theories and evidence. We aim to produce graduates well-equipped for advanced study or research and for a wide variety of careers in the private or public sector.</p>
<p>PROGRAMME OUTCOMES:</p> <p><i>The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas:</i></p>
<p>A: Knowledge and understanding</p>

Knowledge and understanding of:	Teaching/learning methods and strategies:
<p>Year 1</p> <ul style="list-style-type: none"> • a foundation in systems physiology • a foundation in chemistry needed to understand biological systems at a molecular level • an introduction to cell and molecular biology, metabolic biochemistry, cell physiology, cell signalling, and immunology • an introduction to the genetics of humans and other eukaryotes • an introduction to microbiology and bacteriology • an introduction to quantitative biology and statistics • an introduction to quantitative pharmacology <p>Year 2</p> <ul style="list-style-type: none"> • general, systematic and experimental pharmacology • general biochemistry • a foundation in neuroscience • options in animal and human physiology, cellular neurophysiology, immunology, developmental neurobiology and other biomedical topics • an option to take an approved course outside the Faculty, for example a language, management, or information studies <p>Year 3</p> <ul style="list-style-type: none"> • molecular pharmacology or cell signalling • advanced courses in physiology and pharmacology • an option to take an advanced course in a related biomedical science • a selected biomedical research topic in depth • specific advanced research techniques • experimental design • data interpretation and presentation 	<p>Year 1 teaching is by lectures, small group tutorials and laboratory practicals. Computer-based teaching is also important. It includes LAPT (computer-based teaching and assessment exercises), WebCT (integrated online learning environment) and web-based student assignments. There is also web provision of visual aids and supplementary materials. Students are encouraged to read recommended textbooks as a primary information source supplementing lectures. Lecture content is mainly descriptive/factual and practicals illustrate ways in which in which knowledge can be acquired. Tutorials are interactive and reinforce lecture and practical teaching.</p> <p>Year 2 uses the same strategies, but additionally, students are introduced to the scientific literature and are encouraged to use review articles and selected original papers as sources of information. Learning becomes more independent. Laboratory practicals remain important. Use of the biological and medical databases is taught in lectures and in computer-based bioinformatic practicals.</p> <p>Year 3 delivery continues to rely principally on lectures. These are research-based and subjects are probed in depth and critically discussed. The scientific literature is the primary source of information, with students reading recommended recent papers and also researching the literature independently, as learning becomes self-directed. An experimental research project is normally expected to form a substantial component, in which a selected topic is investigated in depth in an established research laboratory.</p>

	<p>Assessment:</p> <p>The end of year unseen written examinations are mostly of essay type and comprise the major form of assessment. Most individual course units also have marked coursework, consisting of essays, laboratory practical reports (in all three years) and also one or more literature-based dissertations (in the second and third years). All of these require acquisition of relevant knowledge from a range of sources and its interpretation. Literature-based dissertations are also accompanied by oral presentations with a discussion. These reveal depth and grasp of knowledge. Similarly, the research project dissertation, and its defence, test depth of knowledge in specific areas, as well as the ability to cope with complex ideas.</p>
B: Skills and other attributes	
<p>Intellectual (thinking) skills:</p> <ol style="list-style-type: none"> 1. analysis and integration of information gathered from a range of sources: experimental, published and electronic 2. critical evaluation and interpretation of evidence 3. construction of arguments and formulation of hypotheses using available lines of evidence 4. identification of problems and finding appropriate logical ways of solving them 5. development of creativity and independence of mind 6. an awareness of health and safety and of ethical issues in biomedicine 	<p>Teaching/learning methods and strategies:</p> <p>All of the teaching and learning methods outlined in A contribute to the development of intellectual skills (1-6). Feedback is a key element and in written course work students are encouraged to produce coherent, insightful accounts (1, 2). Guided and independent reading for supervised essays and dissertations, give confidence (2, 5). In the final year research project, there is continual interaction with supervisors (1-6). Feedback is also an important element in class discussions, in tutorial sessions, in interactions with demonstrators and teachers in practicals, and from teachers and peers in oral presentation sessions (1-6).</p>
	<p>Assessment:</p> <p>All the listed skills are tested in all the forms of assessment in A. In particular, the end of year examinations depend on the selection and presentation of relevant information and ideas (1-3). Coursework essays and literature-based dissertations also test skills 1-3. Laboratory practicals require the acquisition, analysis and interpretation of data, from which conclusions must be drawn and justified, as well as dealing with unexpected problems (2-6). The final year research project dissertation and its defence are indicators of skills 1-6.</p>

C: Skills and other attributes

Practical skills (able to):

1. exploit computer-based teaching software fully
2. access scientific papers, reviews, specialist books and text books from library collections and electronic sources
3. employ basic experimental techniques central to physiology and pharmacology
4. perform experiments safely
5. use advanced techniques specific to the research project
6. design and plan an experimental study, selecting appropriate methods of investigation
7. collect, record, organise, process and evaluate experimental data

Teaching/learning methods and strategies:

Computer-based teaching (LAPT, WebCT etc) is extensive and expanding. It is used principally in the first two years (1). Coursework essays and literature-based dissertations enable development of skills 1 and 2. Laboratory practicals provide opportunities for students to acquire skills 3, 4 and 7. In the laboratory research project, students learn (or improve) skills 2-7. Teaching on data evaluation and statistics forms an element of the research project (7).

Assessment:

Students use of computer-based teaching resources is monitored so that ineffective use is detected (1). Coursework essays and literature-based dissertations are all marked by staff (1, 2). Laboratory practicals are overseen by staff and demonstrators and reports are marked (3, 4, 7). Project supervisors assess performance in the laboratory as part of their assessment (4-7) and the dissertation requires an understanding of current literature (2) as well as data evaluation (7). Written examinations indirectly test 1 and 2.

D: Skills and other attributes

Transferable skills (able to):

1. manage time, prioritise work, meet deadlines
2. use computers/IT to produce essays, reports and visual aids for oral presentations
3. communicate information and ideas effectively in written and oral form
4. to analyse and present numerical and graphical data effectively
5. work in co-operation with others, sharing resources
6. work independently and take responsibility for personal learning and development
7. understand career opportunities and begin to plan a career

Teaching/learning methods and strategies:

Effective time management is an essential skill. Advice is provided by course organisers and personal tutors (1). Use of computers/IT to prepare written work may be self-taught or acquired with peer help. Advice is also provided at tutorials and there is feedback from the marked work. Training courses are available to students who wish to have more formal teaching (2). Presenting information and ideas in written and oral form is improved by feedback from marked work and personal tutors advise on basic skills for writing essays and practical reports (3, 4). In laboratory practicals and in the project, it is important to be able to work effectively as a member of a group (5). At the same time, as students progress through the years, they are encouraged to become more autonomous (6). The College Careers Service provides information, advice and guidance to students in the form of scheduled lectures, literature and web-based information. It also provides personal advice on a one-to-one basis (7). Note that guides on acquiring all the transferable skills are also provided on the College web site (Key Skills Grid).

Assessment:

Completing coursework assignments on time and assembling the project report by the deadline (1). Marked coursework, including oral presentations gives evidence of skills 2-4, while successful practicals depend on 5. All forms of work at the most advanced levels in the third year provide evidence of independent thought and research (6). We do not assess skill 7.

The following reference points were used in designing the programme:

- the Framework for Higher Education Qualifications (<http://www.qaa.ac.uk/academicinfrastructure/benchmark/default.asp>);
- the relevant Subject Benchmark Statements (<http://www.qaa.ac.uk/academicinfrastructure/FHEQ/default.asp>);
- the programme specifications for UCL degree programmes in relevant subjects (where applicable);
- UCL teaching and learning policies;
- staff research.

Please note: 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. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each course unit/module can be found in the departmental course handbook. The accuracy of the information contained in this document is reviewed annually by UCL and may be checked by the Quality Assurance Agency.

Programme Organiser(s) Name(s): Dr Paola Vergani

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Date approved by Head of Department:

Date approved by Chair of Departmental Teaching Committee:

Date approved by Faculty Teaching Committee