

## PROGRAMME SPECIFICATION

### Course record information

Name and level of final award:	<b>BSc (Hons) Pharmacology &amp; Physiology</b> The BSc (Hons) Pharmacology & Physiology programme is a BSc (Hons) degree that is Bologna FQ-EHEA first cycle degree or diploma compatible.
Name and level of intermediate awards:	Diploma of Higher Education in Pharmacology & Physiology Certificate of Higher Education in Life Sciences
Awarding body/institution:	University of Westminster
Teaching Institution:	University of Westminster
Status of awarding body/institution:	Recognised Body
Location of delivery:	Central London
Language of delivery and assessment:	English
Mode, length of study and normal starting month:	Three years full time. September start.
<a href="#">QAA subject benchmarking group(s)</a> :	Biomedical Sciences
Professional statutory or regulatory body:	Accreditation by the Royal Society of Biology will be sought once the new programme is approved
Date of course validation/review:	6 June 2016
Date of programme specification approval:	22 August 2016
Valid for cohorts :	From September 2017
Course Leader	Dr. Chris Biggs
UCAS code and URL:	B210 <a href="http://www.westminster.ac.uk/courses/undergraduate">http://www.westminster.ac.uk/courses/undergraduate</a>

## Admissions requirements

There are standard minimum [entry requirements](#) for all undergraduate courses. Students are advised to check the standard requirements for the most up-to-date information.

[westminster.ac.uk/courses/undergraduate/how-to-apply](http://westminster.ac.uk/courses/undergraduate/how-to-apply)

For most courses a decision will be made on the basis of your application form alone. However, for some courses the selection process may include an interview to demonstrate your strengths in addition to any formal entry requirements.

More information can be found here: [westminster.ac.uk/courses/undergraduate/how-to-apply](http://westminster.ac.uk/courses/undergraduate/how-to-apply)

## Aims of the course

The BSc. (Hons) Pharmacology and Pharmacology course has been designed to enable students to:

- acquire broad understanding of normal and abnormal physiological function, including the biology of representative disease states.
- become proficient in explaining and applying information regarding the mode of therapeutic action, undesirable and toxic effects, absorption, distribution and elimination of exemplar drugs.
- develop problem solving skills and research strategies necessary for the evaluation, critical appraisal and systematic review of pharmacology.
- confidently use and proficiently apply a broad range of appropriate transferable laboratory skills.
- communicate effectively, using a broad range of verbal, written and information technology based media.
- prepare for postgraduate study in related practical and theoretical disciplines.

## What will you be expected to achieve?

Learning outcomes are statements on what successful students have achieved as the result of learning. These are threshold statements of achievement (ie they describe the minimum pass level), and the learning outcomes broadly fall into four categories:

- The overall **knowledge and understanding** you will gain from your course (KU).
- **Graduate attributes** are characteristics that you will have developed during the duration of your course (GA).
- **Professional and personal practice learning outcomes** are specific skills that you will be expected to have gained on successful completion of the course. (PPP)
- **Key transferable skills** that you will be expected to have gained on successful completion of the course. (KTS)

## Level 4 learning outcomes

**Upon completion of level 4 you will be able to:**

LO4.1 demonstrate a key knowledge base in fundamental Pharmacology and related disciplines, in addition to the skills required for building this knowledge base for future success. (KU, KTS, GA)

- LO4.2 identify core issues in, and questions relating to biological problems, and design simple experiments to resolve them. (KU, KTS, GA)
- LO4.3 appreciate the role of Pharmacology in addressing global health/research issues, and gain some understanding of the work done towards resolving them. (KU, KTS, GA)
- LO4.4 enhance existing communication skills and become comfortable in using professional software packages and forms of address. (GA, KTS, PPP)
- LO4.5 become confident in sourcing and communicating information linked to specific issues, and to be aware of the limitations of any literature resources. (GA, KTS, PPP)
- LO4.6 become familiar with basic laboratory equipment and to develop the skills necessary in presenting and communicating experimental data and their limitations. (KU, GA)
- LO4.7 develop and maintain numeracy skills, through engagement with module assessments and activities, and utilising additional resources as required. (KU, KTS, GA, PPP)

### **Level 5 learning outcomes**

#### **Upon completion of level 5 you will be able to:**

- LO5.1 demonstrate an enhanced knowledge base in Pharmacology and related disciplines, in addition to maintaining this knowledge base for future success. (KU, KTS, GA)
- LO5.2 highlight and explain issues in, and questions relating to biological problems, and design a series experiments to resolve them. (KU, KTS, GA)
- LO5.3 articulate and explain the role of Pharmacology in global health/research issues, and demonstrate understanding of the work done towards resolving them. (KU, KTS, GA)
- LO5.4 enhance communication skills and develop confidence in using professional software packages and forms of address. (GA, KTS, PPP)
- LO5.5 reliably source and communicate information linked to Pharmacology and related disciplines, and explain the limitations of any literature resources. (GA, KTS, PPP)
- LO5.6 confidently use, and explain the use of basic laboratory equipment, refining the skills necessary for communicating experimental data and their limitations. (KU, GA)
- LO5.7 maintain numeracy skills, through engagement with module assessments and activities, using experimental data and utilising additional resources as required. (KU, KTS, GA, PPP)

### **Level 6 learning outcomes**

#### **Upon completion of level 6 you will be able to:**

- LO6.1 demonstrate a knowledge base which discloses a detailed understanding of Pharmacology and related disciplines, whilst maintaining said knowledge base for future success. (KU, KTS, GA)
- LO6.2 confidently explain core issues/questions in biological problems and identify and propose new or novel approaches to their solution (KU, KTS, GA)

- LO6.3 confidently explain the role of Pharmacology in global health/research issues, and the work done towards resolving them, proposing novel solutions where possible. (KU, KTS, GA)
- LO6.4 effectively communicate scientific concepts with peers and lay audiences, and use professional software packages and forms of address. (GA, KTS, PPP)
- LO6.5 effectively communicate information linked to Pharmacology and related disciplines, and to explain the limitations of any literature resources proposing resolutions to these limitations where possible. (GA, KTS, PPP)
- LO6.6 use laboratory equipment and/or scientific method in research and to refine the skills necessary for communicating experimental data and their limitations. (KU, GA)
- LO6.7 critically analyse data as a part of research activity, maintain and improving these through engagement with internal and external activities. (KU, KTS, GA, PPP)

### **How will you learn?**

The learning and teaching opportunities for the BSc Pharmacology & Physiology programme will be a mixture of formal contact, independent work and online support activities. The formal contact element will consist of large and small group lectures, seminars, tutorials and workshops, laboratory practical sessions and demonstrations, and enquiry (problem) based learning.

Online resources will be provided where possible to help support a wide range of learning activities and you will also be tasked with finding alternative resources for your academic development. You will be supported in working independently to consolidate and enhance your understanding of the topics being taught.

Students will be encouraged to participate in as wide a range of activities as possible, both within the curriculum and extra-curricular, in order to enhance transferable skills, personal enrichment and integration within the University.

### **How will you be assessed?**

Assessments within the BSc Pharmacology & Physiology programme have been designed to support learning of scientific concepts, deeper understanding of more applied content, and to enhance key employability skills, such as written and oral communication, numeracy, digital literacy, scientific literacy and scientific competency.

Assessment is an important tool for guiding your studies and helping you to improve your skills, knowledge and understanding. Your modules all use a mixture of “summative” assessments (in which the marks contribute to your overall module mark and can contribute to your degree classification) and “formative” assessments (which do not contribute to your mark, but provide a vehicle for feedback to guide you in furthering your studies and assist you in optimising your performance in the summative assessments). You will also receive informal feedback in discussions with academic staff, in tutorials and other sessions. This will include immediate guidance on how to improve your technical skills and laboratory practice during practical and small group sessions discussing your final year project with your project supervisor.

Pharmacology & Physiology graduates are expected to display a wide range of skills and personal qualities, as well as an extensive knowledge of pharmacology and related disciplines. This is reflected in the use of a number of diverse assessment types during the course of your studies.

Many modules will use examinations and in class tests. These can be used to evaluate your knowledge and understanding, and your ability to construct reasoned arguments based on your knowledge. However, your skill in problem solving, analysing and interpreting data and carrying out calculations are also sometimes tested in this way and many of these are partly or completely “open book”.

Laboratory skills are a fundamental aspect of professional practice for both pharmacologists and physiologists, and both formative and summative practical based assessments will test your ability to work accurately, effectively and safely, whilst using a number of key techniques. Your accounts of your work allow you to demonstrate that you can interpret data and report research clearly, concisely and honestly. This will sometimes be as a conventional scientific report, but in some modules you will be asked to use other formats such as posters, presentations or passages in a laboratory notebook.

Other types of assessment used to evaluate various graduate skills and aspects of scientific understanding, communication and practice may also include posters and other presentations, in addition to essays, wikis and blogs, and data analysis and interpretation exercises.

Working in groups or teams is essential in most careers, whether in science or in other areas, and you will work with other students to complete some assessments to help you develop these skills.

In your final year research project, you will plan and carry out a short research programme investigating an appropriate subject. The primary assessment is a thesis written in the style of a short scientific paper, thus testing the design and conduct of the project, the quality of data obtained, its analysis and interpretation, and the formation of reasoned conclusions based upon the results in the context of previous work in the area, as well as the clarity and professionalism with which the work is communicated. Therefore, this brings together multiple aspects of your degree and provides direct evidence of your ability to work independently as a scientific professional.

Additionally, some modules assess learning outcomes or content from another module (called ‘synoptic assessment’). This requires you to synthesise skills and knowledge from different modules and thereby promotes a broader perspective in your learning and encourages you to cultivate a flexible attitude that is receptive to multidisciplinary approaches.

## **Employment and further study opportunities**

You will study a broad range of key bioscience and applied biomedical disciplines, providing a sound underpinning for cutting edge content. To this end, there will be a particular focus upon new and emerging technologies where appropriate, and how these are shaping both the drug discovery process and the emerging area of personalised medicine. In short, whilst the course seeks to teach fundamental pharmacological and supporting disciplines, it has its sights set firmly on the future contributions that pharmacology and physiology will make to our understanding of biology and to healthcare. Successful graduates of the BSc.

Pharmacology and Physiology programme can expect to find opportunities for further study (MSc, MRes, DPhil, PhD.) and to acquire the core skills required for employment in a variety of settings. Typically, these might include careers in the pharmaceutical industry or other areas of biomedical research, scientific writing, academia, the Scientific Civil Service, Clinical Research bodies and hospital departments. Opportunities exist for students to enhance practical and related transferable skills within our teaching and research laboratories. Teaching is informed by high quality research, in relevant cognate areas within the Faculty of Science and Technology.

University of Westminster BSc Pharmacology graduates will be able to demonstrate the following five Graduate Attributes upon successful completion of their course:

- Critical and creative thinkers
- Literate and effective communicator
- Entrepreneurial
- Global in outlook and engaged in communities
- Social, ethically and environmentally aware

These attributes reflect the requirements of the dynamic employment markets in which our graduates will find themselves, and developing these qualities will equip graduates to prosper in them.

**Table 1**  
**Alignment of Graduate Attributes to Course Learning Outcomes**

Graduate Attribute	Evident in Course Learning Outcomes
Critical and creative thinker	4.1, 4.2, 5.1, 5.2, 6.1, 6.2
Literate and effective communicator	4.5, 4.7, 5.5, 5.7, 6.5, 6.7
Entrepreneurial	4.4, 4.6, 5.4, 5.6, 6.4, 6.6
Global in outlook and engaged in communities	4.3, 5.3, 6.3
Socially, ethically and environmentally aware	4.3, 5.3, 6.3

### Course structure

This section shows the core and option modules available as part of the course and their credit value. Full-time Undergraduate students study 120 credits per year. Course structures can be subject to change each academic year following feedback from a variety of sources.

**Table 2**  
**BSc. (Hons) Pharmacology & Physiology course structure**

Please note: Not all option modules will necessarily be offered in any one year.

Credit Level 4				
Module code	Module title	Status	UK credit	ECTS
4BICH001W	Biochemistry	Core	20	10
4BIOL002W	Cell Biology	Core	20	10
4PHYM001W	Human Physiology	Core	20	10
4BICH003W	Science: History, Philosophy and Practice	Core	20	10
4PHYM002W	Fundamentals of Pharmacology	Core	20	10
4BIOL001W	Applications of Biological Sciences	Option	20	10
4BICH002W	Biological Chemistry	Option	20	10
4HRBM002W	Botany	Option	20	10
	University Elective	Option	20	10
<b>Award of Certificate of Higher Education available</b>				

<b>Credit Level 5</b>				
<b>Module code</b>	<b>Module title</b>	<b>Status</b>	<b>UK credit</b>	<b>ECTS</b>
5BIOM010W	Research Methods	Core	20	10
5BICH001W	Metabolic Biochemistry	Core	20	10
5PHYM002W	Physiological networks	Core	20	10
5PHYM001W	Medical Physiology	Core	20	10
5PHYM003W	Systems Pharmacology	Core	20	10
5BICH003W	Molecular Biology and Genetics	Option	20	10
5BICH002W	Bioinformatics	Option	20	10
5EVBI001W	Contemporary Global Issues	Option	20	10
	University Elective	Option	20	10
<b>Award of Diploma of Higher Education available</b>				

<b>Credit Level 6</b>				
<b>Module code</b>	<b>Module title</b>	<b>Status</b>	<b>UK credit</b>	<b>ECTS</b>
6BICH003W	UG Research Project	Core	40	20
6PHYM004W	Drug Discovery with Immunopharmacology	Core	20	10
6PHYM003W	Advanced Pharmacology and Toxicology	Core	20	10
6PHYM002W	Topics in Neuroscience	Core	20	10
6CLCH002W	Clinical Neuropharmacology	Option	20	10
6BIOL002W	Advanced Cell Biology	Option	20	10
6EVBI001W	Global Ethics	Option	20	10
	University Elective	Option	20	10
<b>Award of BSc available</b>				
<b>Award of BSc Honours available.</b>				

### **Professional Body Accreditation or other external references**

The previously validated BSc (Hons) in Pharmacology and Physiology course was recognised by the Society of Biology until 2014. New recognition or accreditation will be sought from the Royal Society of Biology for the re-approved programme.

### **Academic regulations**

The current Handbook of Academic Regulations is available at [westminster.ac.uk/academic-regulations](http://westminster.ac.uk/academic-regulations)

### **How will you be supported in your studies?**

## **Course Management**

Your course is managed through the Department of Life Sciences within the Faculty of Science & Technology. The Course Leader and the teaching team will meet you in the induction programme and can help you with enrolment, registration, and orientation to the university, its processes and the culture of higher education. The Course Leader is responsible for development and management of the course in conjunction with the Head of Department, the Faculty Director of Learning and Teaching and the departmental Learning & Teaching co-ordinator.

The course is monitored each year by senior members of the Faculty to ensure that it is running effectively and that issues that might affect the student experience have been appropriately addressed. Each course will have Course Committee meetings throughout the year and staff will consider the outcomes from these meetings, evidence of student progression and achievement to evaluate the effectiveness of the course. The Academic Standards Group audits this process and the outcomes are reported to the Academic Council of the University, which has overall responsibility for the maintenance of quality and standards in the University.

## **Academic Support**

Upon arrival, an induction programme will introduce you to the staff responsible for the course, the campus on which you will be studying, the Library and IT facilities, additional support available and to your Faculty Registry Office. You will be provided with the Course Handbook, which provides detailed information about the course. Each course has a course leader or Director of Studies. All students enrolled on a full-time course and part time students registered for more than 60 credits a year have a personal tutor, who provides advice and guidance on academic matters. The University uses a Virtual Learning Environment called Blackboard where students access their course materials, and can communicate and collaborate with staff and other students

## **Learning Support**

The Academic Learning Development Centre supports students in developing the skills required for higher education. As well as online resources in Blackboard, students have the opportunity to attend Study Skills workshops and one to one appointments.

Learning support includes four libraries, each holding a collection of resources related to the subjects taught at that site. Students<sup>1</sup> can search the entire library collection online through the Library Search service to find and reserve printed books, and access electronic resources (databases, e-journals, e-books). Students can choose to study in the libraries, which have areas for silent and group study, desktop computers, laptops for loan, photocopying and printing services. They can also choose from several computer rooms at each campus where desktop computers are available with the general and specialist software that supports the courses taught at their Faculty. Students can also securely connect their own laptops and mobile devices to the University wireless network.

## **Support Services**

The University of Westminster Student Affairs department provide advice and guidance on accommodation, financial and legal matters, personal counselling, health and disability issues, careers, specialist advice for international students and the chaplaincy providing multi-faith guidance. The University of Westminster Students' Union also provides a range of facilities to support students during their time at the University.

## **How do we ensure the quality of our courses and continuous improvement?**

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<sup>1</sup> Students enrolled at Collaborative partners may have differing access due to licence agreements.



The course was initially approved by a University Validation Panel in 2002. The panel included internal peers from the University, academic(s) from another University and a representative from industry. This helps to ensure the comparability of the course to those offered in other Universities and the relevance to employers.

The course is also monitored each year by the Faculty to ensure it is running effectively and that issues which might affect the student experience have been appropriately addressed. Staff will consider evidence about the course, including the outcomes from Course Committees, evidence of student progression and achievement and the reports from external examiners, to evaluate the effectiveness of the course. Each Faculty puts in to place an action plan. This may for example include making changes on the way the module is taught, assessed or even how the course is structured in order to improve the course, in such cases an approval process is in place.

A Course review takes place periodically to ensure that the curriculum is up-to-date and that the skills gained on the course continue to be relevant to employers and research institutions. Students meet with review panels to provide feedback on their experiences. Student feedback from previous years e.g. from Course Committees is also part of the evidence used to assess how the course has been running.

### **How do we act on student feedback?**

Student feedback is important to the University and student views are taken seriously. Student feedback is gathered in a variety of ways.

- Through Course Committees, students have the opportunity to express their voice in the running of their course. Student representatives are elected to Committee to expressly represent the views of their peers. The University and the Students' Union work together to provide a full induction to the role of the student representatives.
- Each Faculty also has its own Faculty Student Forum with student representatives; this enables wider discussions across the Faculty. Student representatives are also represented on key Faculty and university committees.
- All students are invited to complete a questionnaire before the end of each module. The feedback from this will inform the module leader on the effectiveness of the module and highlight areas that could be enhanced.

The University also has an annual Student Experience Survey which seeks the opinions of students about their course and University experience. Final year Undergraduate students will be asked to complete the National Student Survey which helps to inform the national university league tables.

### **For more information about this course:**

Course Leader:

Dr. Chris Biggs

[biggsc@westminster.ac.uk](mailto:biggsc@westminster.ac.uk)

0207 911 5000 ext. 68098

Admissions & Marketing Office:

[cavendish-admissions@westminster.ac.uk](mailto:cavendish-admissions@westminster.ac.uk)

020 7911 5903

**Please note:** This programme specification provides a concise summary of the main features of the course and the learning outcomes that a student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided. This specification should be read in conjunction with the Course Handbook provided to students and Module Handbooks, which provide more detailed information on the specific learning outcomes, content, teaching, learning and assessment methods for each module.

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