

## Course Specification

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<b>Status:</b>	Validated

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## Core Information

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<b>Awarding Body / Institution:</b>	University of Wolverhampton		
<b>School / Institute:</b>	School of Pharmacy		
<b>Course Code(s):</b>	PY001K23UV	Sandwich	4 Years
<b>UCAS Code:</b>	B212		
<b>Course Title:</b>	BSc (Hons) Pharmacology with Sandwich Placement		
<b>Hierarchy of Awards:</b>	PRG_CODE.PAW=P_NAME.DUMMY=PY001K23UV		
<b>Language of Study:</b>	English		
<b>Date of DAG approval:</b>	25/Sep/2017		
<b>Last Review:</b>	2014/5		
<b>Course Specification valid from:</b>	2010/1		
<b>Course Specification valid to:</b>	2020/1		

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## Academic Staff

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<b>Course Leader:</b>	Dr Stephen Anderson
<b>Head of Department:</b>	Dr Colin Brown

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# Course Information

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<b>Location of Delivery:</b>	University of Wolverhampton
<b>Category of Partnership:</b>	Not delivered in partnership
<b>Teaching Institution:</b>	University of Wolverhampton
<b>Open / Closed Course:</b>	This course is open to all suitably qualified candidates.

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## Entry Requirements:

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Entry requirements are subject to regular review. The entry requirements applicable to a particular academic year will be published on the University website (and externally as appropriate e.g. UCAS)

GCSE Grade C in English language and mathematics or equivalent plus:

A levels 200 points from three A level subjects with minimum grade C in biology or chemistry plus one other science/maths subject

IB - 25 points with biology or chemistry at HL (minimum 5), plus chemistry/biology, physics and maths

Irish Higher - BBBCCC. Must have B in biology or chemistry. Prefer others to be science-based

Scottish Highers CCCCC. Must have C (Advanced Higher) in biology or chemistry. Prefer others to be science-based

BTEC NND - MMP Applied Science

BTEC NNC - DM Applied Science

Welsh Baccalaureate Advanced Diploma

Pass plus chemistry (minimum grade C) and one further A level

Access to HE - 45 credits at level 3 including at least 18 credits at merit or distinction in science (chemistry, mathematics AND biology).

Foundation years - Only University of Wolverhampton approved courses accepted

## Distinctive Features of the Course:

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This course has a strong bias towards the attainment of practical and analytical skills appropriate to pharmacology.

## Educational Aims of the Course:

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Pharmacy and related science programmes at the University of Wolverhampton have the generic aims to:

Allow you to obtain those experiences and abilities to enter at an appropriate level and achieve to the maximum of your potential. The course will provide progressive, coherent and challenging learning opportunities informed by research, scholarly activity and appropriate development of skills

Enable you to achieve clearly defined subject specific and generic academic outcomes and to develop a range of key skills to fit you for subsequent employment and/or further study,

Encourage you to take responsibility for your own learning, foster a spirit of enquiry, and develop attitudes and skills to underpin independent, life-long learning.

The overarching course related aim:

To provide a deep-rooted understanding of the fundamental principles of chemistry and biology as applicable to pharmacology. The course aims to produce high quality pharmacology graduates with the generic, subject-specific and transferable knowledge and skills suited to a career in the pharmaceutical industry or other related laboratory-based scientific discipline.

The Course aims to:

To provide an understanding of normal and abnormal bodily function, the biology of disease (aetiology and epidemiology) and the absorption, distribution, metabolism and excretion of medicines and their actions (interactions, abreactions and misuse) and therapeutic uses.

To support students in the development of intellectual and key interpersonal skills as well as subject knowledge that will equip them for life-long learning.

To provide skill sets specific to the pharmacologist, and promote curiosity and enthusiasm for the subject.

To encourage the development of practical and problem solving skills, research methods and the techniques and processes necessary for the evaluation, critical appraisal and systematic review of pharmacology.

Intakes:

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September

Major Source of Funding:

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Office for Students (OFS)

Tuition Fees:

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Tuition fees are reviewed on an annual basis. The fees applicable to a particular academic year will be published on the University website.

Year	Status	Mode	Amount
2020/1	H	Full Time / Sandwich	£9250.00
2020/1	Overseas	Full Time / Sandwich	£12250.00

PSRB:

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PY001K23UV (Sandwich)

Professional Accreditation Body:  
Society of Biology

Accrediting Body:  
Royal Society of Biology

Accreditation Statement:

"Accredited by the Royal Society of Biology for the purpose of meeting, in part, the academic and experience requirement of membership and Chartered Biologist (CBiol)."

Approved	Start	Expected End	Renewal
01/Jul/2020	01/Jul/2020		30/Jun/2025

Course Structure:

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## September (Sandwich)

### Year 1

Module	Title	Credits	Period	Type
4PY014	Pharmacology and Toxicology	20	SEM1	Core
4BM016	Human Form & Function	20	SEM1	Core
4PY012	Scientific Communication and Undergraduate Development	20	SEM1	Core
4PY013	Molecular Basis of Life	20	SEM2	Core
4PY008	Introduction to Microbiology	20	SEM2	Core
4PY009	Principles of Drug Action	20	SEM2	Core

## September (Sandwich)

### Year 2

Module	Title	Credits	Period	Type
5BC001	Molecular Biosciences	20	SEM1	Core
5PY017	Pharmaceutical Microbiology	20	SEM1	Core
5PY010	Therapeutic Pharmacology	20	SEM1	Core
5PY016	Experimental Pharmacology	20	SEM2	Core
5PY018	Drug Design and Development	20	SEM2	Core
5PY024	Further Therapeutic Pharmacology	20	SEM2	Core

## September (Sandwich)

### Year 3

Module	Title	Credits	Period	Type
5AB017	Sandwich Placement	40	YEAR	Core

## September (Sandwich)

### Year 4

Module	Title	Credits	Period	Type
6PY004	Honours Project (Pharmaceutical Sciences and Pharmacology)	40	YEAR	Core
6BC002	Gene Manipulation and Bioinformatics	20	SEM1	Core
6PY002	Pharmaceutical Biotechnology and Molecular Biology	20	SEM1	Core
6PY007	Current Advances in Pharmacology	20	SEM2	Core
6PY006	Biochemical Pharmacology	20	SEM2	Core

Please note: Optional modules might not run every year, the course team will decide on an annual basis which options will be running, based on student demand and academic factors, to create the best learning experience.

## Learning, Teaching and Assessment

### Academic Regulations Exemption:

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None

### Reference Points:

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QAA Subject Benchmarks: The Subject Benchmarks for Pharmacy (Quality Assurance Agency for Higher Education, 2002).

Framework for Higher Education Qualifications (FHEQ): National Qualifications Framework: The framework for higher qualifications in England, Wales and Northern Ireland. Qualifications descriptors for Intermediate (I) and Honours (H) levels. Quality Assurance Agency. January 2001.

Professional, Statutory & Regulatory Body requirements: The requirements for the *Accreditation of UK Pharmacy Degree Courses* (Royal Pharmaceutical Society of Great Britain, 2003) including those stemming from European Directive 85/432/EEC and the resolutions of the EC Advisory Committee on Pharmaceutical Training.

British Pharmacological Society: Indicative syllabus 2004 for BSc Pharmacology

Equality Act 2010

School Documents: Biomedical Science Division: Graduate Generic Outcomes, March 2002.

Biomedical Science Division: Key Skills Specifications. March 2002.

### Learning Outcomes:

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CertHE Course Learning Outcome 1 (CHECLO1)

"Demonstrate knowledge of the underlying concepts and principles associated with your area(s) of study, and an ability to evaluate and interpret these within the context of that area of study"

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CertHE Course Learning Outcome 2 (CHECLO2)

"Demonstrate an ability to present, evaluate and interpret qualitative and quantitative data, in order to develop lines of argument and make sound judgements in accordance with basic theories and concepts of your subject(s) of study."

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CertHE Course Learning Outcome 3 (CHECLO3)

Evaluate the appropriateness of different approaches to solving problems related to your area(s) of study and/or work

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CertHE Course Learning Outcome 4 (CHECLO4)

"Communicate the results of your study/work accurately and reliably, and with structured and coherent arguments"

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CertHE Course Learning Outcome 5 (CHECLO5)

Demonstrate the qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility

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DipHE Course Learning Outcome 1 (DHECLO1)

"Demonstrate knowledge and critical understanding of the well-established principles of your area(s) of study, and of the way in which those principles have developed with an understanding of the limits of your knowledge, and how this influences analyses and interpretations based on that knowledge."

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DipHE Course Learning Outcome 2 (DHECLO2)

"Demonstrate the ability to apply underlying concepts and principles outside the context in which they were first studied, including, where appropriate, the application of those principles in an employment context"

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DipHE Course Learning Outcome 3 (DHECLO3)

"Demonstrate knowledge of the main methods of enquiry in the subject(s) relevant to the named award, and ability to evaluate critically the appropriateness of different approaches to solving problems in the field of study"

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DipHE Course Learning Outcome 4 (DHECLO4)

"Use a range of established techniques to initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis"

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DipHE Course Learning Outcome 5 (DHECLO5)

"Effectively communicate information, arguments and analysis in a variety of forms to specialist and non-specialist audiences, and deploy key techniques of the discipline effectively"

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DipHE Course Learning Outcome 6 (DHECLO6)

"Demonstrate the qualities and transferable skills necessary for employment, requiring the exercise of personal responsibility and decision-making and undertake further training, developing existing skills and acquire new competences that will enable them to assume significant responsibility within organisations."

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Ordinary Degree Course Learning Outcome 1 (ORDCLO1)

Apply a range of graduate skills to investigation in pharmacological science

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Ordinary Degree Course Learning Outcome 2 (ORDCLO2)

"Show competency in scientific method; its values, application and extension as applied to the various disciplines which comprise Pharmacology"

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Ordinary Degree Course Learning Outcome 3 (ORDCLO3)

Demonstrate the ability to use a range of laboratory-based techniques

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Ordinary Degree Course Learning Outcome 4 (ORDCLO4)

Relate the pharmacological actions of drugs to their efficacy in achieving therapeutic effects

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Ordinary Course Learning Outcome 5 (ORDCLO5)

"Critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution - or identify a range of solutions - to a problem"

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Ordinary Course Learning Outcome 6 (ORDCLO6)

Demonstrate the qualities and transferable skills necessary for employment requiring: A) the exercise of initiative and personal responsibility. B) decision-making in complex and unpredictable contexts. C) the learning ability needed to undertake appropriate further training of a professional or equivalent nature.

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Honours Degree Course Learning Outcome 1 (DEGCLO1)

Apply a range of graduate skills to investigation in pharmacological science

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Honours Degree Course Learning Outcome 2 (DEGCLO2)

"Show competency in scientific method; its values, application and extension as applied to the various disciplines which comprise Pharmacology"

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Honours Degree Course Learning Outcome 3 (DEGCLO3)

Demonstrate the ability to use a range of laboratory-based techniques

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Honours Degree Course Learning Outcome 4 (DEGCLO4)

Relate the pharmacological actions of drugs to their efficacy in achieving therapeutic effects

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Honours Course Learning Outcome 5 (DEGCLO5)

"Critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution - or identify a range of solutions - to a problem"

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Honours Course Learning Outcome 6 (DEGCLO6)

Demonstrate the qualities and transferable skills necessary for employment requiring: A) the exercise of initiative and personal responsibility. B) decision-making in complex and unpredictable contexts. C) the learning ability needed to undertake appropriate further training of a professional or equivalent nature.

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Overview of Assessment:

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<b>Module</b>	<b>Title</b>	<b>Course Learning Outcomes</b>
4BM016	Human Form & Function	CHECLO1, CHECLO2, CHECLO3, CHECLO4
4PY008	Introduction to Microbiology	CHECLO1, CHECLO4, CHECLO5
4PY009	Principles of Drug Action	CHECLO1, CHECLO2, CHECLO3, CHECLO4
4PY012	Scientific Communication and Undergraduate Development	CHECLO2, CHECLO3, CHECLO4, CHECLO5
4PY013	Molecular Basis of Life	CHECLO1, CHECLO2, CHECLO3, CHECLO4
4PY014	Pharmacology and Toxicology	CHECLO1, CHECLO2, CHECLO3, CHECLO4
5AB017	Sandwich Placement	DHECLO1, DHECLO2, DHECLO3, DHECLO4, DHECLO6
5BC001	Molecular Biosciences	DHECLO1, DHECLO3, DHECLO4, DHECLO5
5BC002	Proteins	DHECLO1, DHECLO3, DHECLO4, DHECLO5
5PY010	Therapeutic Pharmacology	DHECLO1, DHECLO3, DHECLO5
5PY016	Experimental Pharmacology	DHECLO1, DHECLO2, DHECLO3, DHECLO4, DHECLO6
5PY017	Pharmaceutical Microbiology	DHECLO1, DHECLO3, DHECLO5
5PY018	Drug Design and Development	DHECLO1, DHECLO2, DHECLO3, DHECLO4, DHECLO6
5PY024	Further Therapeutic Pharmacology	DHECLO1, DHECLO3, DHECLO5
6BC002	Gene Manipulation and Bioinformatics	DEGCLO1, DEGCLO2, DEGCLO3, DEGCLO5, ORDCLO1, ORDCLO2, ORDCLO3, ORDCLO5
6PY002	Pharmaceutical Biotechnology and Molecular Biology	DEGCLO1, DEGCLO3, DEGCLO4, DEGCLO5, ORDCLO1, ORDCLO3, ORDCLO4, ORDCLO5
6PY004	Honours Project (Pharmaceutical Sciences and Pharmacology)	DEGCLO1, DEGCLO2, DEGCLO3, DEGCLO4, DEGCLO6, ORDCLO1, ORDCLO2, ORDCLO3, ORDCLO4, ORDCLO6
6PY006	Biochemical Pharmacology	DEGCLO1, DEGCLO3, DEGCLO4, DEGCLO5, ORDCLO1, ORDCLO3, ORDCLO4, ORDCLO5
6PY007	Current Advances in Pharmacology	DEGCLO1, DEGCLO2, DEGCLO3, DEGCLO4, DEGCLO6, ORDCLO1, ORDCLO2, ORDCLO3, ORDCLO4, ORDCLO6

## Teaching, Learning and Assessment:

In order for students to be:

Digitally Literate, the programme includes

- Computer based learning
- Supported learning using the University VLE (CANVAS) for information, synchronous and asynchronous communications

Knowledgeable and Enterprising, the programme includes

- Lectures
- Tutorials (small group)
- Tutorials (one-to-one)
- Workshops
- Case studies
- Structured laboratory exercises
- Individual structured assignment-based learning
- Directed study



Global citizens, the programme includes

- Individual or group investigative practical exercises
- Individual and group research project investigations
- Group work to develop and assess a wide range of manipulative, logic and other transferable skills.

### Assessment Methods:

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At the University of Wolverhampton, a variety of modes of assessment will be used to support and test your learning and progress and to help you develop capabilities that are valued beyond your University studies and into your working life. Your course may include a variety of assessment activities:

Written examinations (including online examinations, open and closed book examinations and quizzes)  
Coursework (for example, essays, reports, portfolios, project proposals and briefs, CVs, poster presentation)  
Practical (for example, oral and video presentations, laboratory work, performances, practical skills assessment)

In the final year of your undergraduate degree, and at the end of your postgraduate degree, you are likely to be expected to write an extended piece of work or research, such as a dissertation or a practice-based piece of research.

### Student Support:

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A wide range of support for learning will be available to pharmacology students. Generic support will include the use of central services such as SAS's Student Support Office, for general enquiries, and City Campus's Learning Centre. The Learning Centre will provide library facilities as well as electronic and literature search resources and introduce study skills to students.

Support for study skills will also be embedded within individual modules. Outside of the module environment, 'drop-in' opportunities at the Learning Centre or with demonstrators will be available.

For more specific support, students will be able to contact their personal tutors as well as being able to use SAMS to contact individual members of staff for face-to-face meetings.

Specialist software (PharmaCALogy, PebblePad, GraphPad Prism, Chart, etc.) is likely to be introduced within a module setting, so further enriching the learning environment for students, with additional staff support being offered where necessary.

Using the above mentioned frameworks to support the development of study skills, autonomous student learning will be encouraged.

### Employability in the Curriculum:

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The pharmaceutical and biotechnology sectors are currently growth areas in the UK and successful study in pharmacology will open up a range of careers in biochemical, medical, pharmaceutical, chemical and related areas. Specifically, graduates are likely to find employment in research and development in the pharmaceutical and medical sectors. Other career outlets are possible and include work in hospital laboratories, forensic science, drug analysis, pharmaceutical marketing and sales and medical writing.

Graduates will demonstrate the generic, subject-specific and transferable knowledge and skills that form a sound basis for further postgraduate study and/or research and their continuing development.