

## Course Specification

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<b>Produced By:</b>	Oliver Jones
<b>Status:</b>	Validated

## Core Information

<b>Awarding Body / Institution:</b>	University of Wolverhampton		
<b>School / Institute:</b>	School of Pharmacy		
<b>Course Code(s):</b>	PY002T01UV PY002T31UV	Full-time Part-time	4 Years 8 Years
<b>UCAS Code:</b>	F152		
<b>Course Title:</b>	BSc (Hons) Pharmaceutical Science with Foundation Year		
<b>Hierarchy of Awards:</b>	Bachelor of Science with Honours Pharmaceutical Science Bachelor of Science Pharmaceutical Science Diploma of Higher Education Pharmaceutical Science Certificate of Higher Education Pharmaceutical Science University Statement of Credit University Statement of Credit		
<b>Language of Study:</b>	English		
<b>Date of DAG approval:</b>	01/Sep/2017		
<b>Last Review:</b>	2014/5		
<b>Course Specification valid from:</b>	2010/1		
<b>Course Specification valid to:</b>	2020/1		

## Academic Staff

<b>Course Leader:</b>	Mr David Gay
<b>Head of Department:</b>	Dr Colin Brown

# Course Information

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Location of Delivery:	University of Wolverhampton
Category of Partnership:	Not delivered in partnership
Teaching Institution:	University of Wolverhampton
Open / Closed Course:	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)

### 2017 Entry

- DD from A level
- BTEC QCF Extended Diploma grade PPP, BTEC QCF Diploma grade MP
- Pass Access to HE Diploma (Full Award)
- If you've got other qualifications or relevant experience, please contact [The Gateway](#) for further advice before applying.
- International entry requirements and application guidance can be found [here](#)

### Other Requirements

Students must have studied a minimum of two years post GCSE level. However, it is expected that some applicants will be mature students with work experience, who wish to further their career development. These applicants will be processed through standard procedures, which may involve an interview as part of the process. Please see <http://wlv.ac.uk/mature> for further information.

Applicants who do not meet the entry requirements may be offered an alternative course.

### Distinctive Features of the Course:

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The BSc Pharmaceutical Science course will provide you with a range of progressive, coherent and challenging learning opportunities informed by research, scholarly activity and appropriate development of skills. Pharmaceutical Science is a relatively new discipline and is concerned with fostering a multi-disciplinary approach towards the study of exciting new developments in the chemical, biological and biomedical science areas focusing upon the biochemistry, pharmacology, design, methods of analysis and delivery of pharmaceutical substances. You will also be supported in the development of intellectual and key interpersonal skills as well as subject knowledge that will equip you for life-long learning and employability.

The foundation year (Level 3 modules) will develop your study and analytical skills in preparation for your future study in science and technology and develop an understanding of the knowledge which underpins the pharmaceutical arena.

The course aims to produce high quality pharmaceutical science 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 disciplines. You will have the opportunity to study the Wolverhampton Employability Award up to gold level. You will also be supported in seeking placement opportunities either as a sandwich year or over the summer vacation.

### Educational Aims of the Course:

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The BSc Pharmaceutical Science course will provide you with a range of progressive, coherent and challenging learning opportunities informed by research, scholarly activity and appropriate development of skills. Pharmaceutical Science is a relatively new discipline and is concerned with fostering a multi-

disciplinary approach towards the study of exciting new developments in the chemical, biological and biomedical science areas focusing upon the biochemistry, pharmacology, design, methods of analysis and delivery of pharmaceutical substances. You will also be supported in the development of intellectual and key interpersonal skills as well as subject knowledge that will equip you for life-long learning and employability.

The foundation year (level 3 modules) will develop your study and analytical skills in preparation for your future study in science and technology and develop an understanding of the knowledge which underpins the pharmaceutical arena.

The course aims to produce high quality pharmaceutical science 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 disciplines. You will have the opportunity to study the Wolverhampton Employability Award up to gold level. You will also be supported in seeking placement opportunities either as a sandwich year or over the summer vacation.

You will be able to transfer to other courses following successful completion of the level 3 modules.

To transfer to level 4 of the BSc Pharmacology program 120 credits at level 3 must be obtained.

To transfer to level 4 of the MSci Pharmaceutical Science or level 4 of the MSci Pharmacology program, 120 credits at level 3 must be obtained and an average mark of 50 % must be achieved across these level 3 modules.

To transfer to level 4 of the MPharm program a mark of 75 % (or above) must be achieved in 3PY001 (Orientation to Pharmaceutical Studies). Additionally an average mark of 75 % (or above) must be achieved across all level 3 modules and all modules must be passed on first attempt. Only the marks obtained on the first attempt will be considered. GCSE Maths and English Language at C/grade 4 are also required. Students obtaining over 70 % in 3PY001 (Orientation to Pharmaceutical Studies) and an average mark of 70 % (or above) across the level 3 modules will be considered for transfer to the MPharm depending on the availability of places. Please note an interview may also be required to transfer to MPharm course.

Transfers to Level 4 of other courses in the Faculty of Science and Engineering may be considered depending on the modules taken at Level 3.

In addition you will be eligible to transfer over to MSci Pharmaceutical Science course providing you attain a 2:2 standard by the end of level 5.

Completion of this course with a minimum grade of a 2:2(Hons) will allow you to progress onto the MSci Pharmaceutical Science course at level 7.

#### Intakes:

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September

#### Major Source of Funding:

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HE FUNDING COUNCIL FOR ENGLAND (HEFCE)

#### 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.

<b>Year</b>	<b>Status</b>	<b>Mode</b>	<b>Amount</b>
2017/8	H	Full Time / Sandwich	£9250.00
2017/8	EU	Full Time / Sandwich	£9250.00
2017/8	Overseas	Full Time / Sandwich	£11475.00
2017/8	H	Part Time	£2835.00
2017/8	EU	Part Time	£2835.00
2017/8	Overseas	Part Time	£5738.00
2018/9	H	Full Time / Sandwich	£9250.00
2018/9	EU	Full Time / Sandwich	£9250.00
2018/9	Overseas	Full Time / Sandwich	£11700.00
2018/9	H	Part Time	£2925.00
2018/9	Overseas	Part Time	£5850.00
2018/9	EU	Part Time	£2925.00
2019/0	H	Full Time / Sandwich	£9250.00
2019/0	EU	Full Time / Sandwich	£9250.00
2019/0	Overseas	Full Time / Sandwich	£12000.00
2019/0	H	Part Time	£2975.00
2019/0	Overseas	Part Time	£6000
2019/0	EU	Part Time	£2975.00

PSRB:

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None

Course Structure:

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## September (Full-Time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

**Year 1**

Module	Title	Credits	Period	Type
3CN001	Communication Life Skills	20	SEM1	Core
3MM001	Fundamental Mathematics Skills	20	SEM1	Core
3CC002	Problem Solving Skills in Science and Technology	20	SEM1	Core
3PY001	Orientation to Pharmaceutical Studies	20	SEM2	Core

**For this option group you must choose a minimum of 40 credits and a maximum of 40 credits**

3AB002	Orientation to Biosciences	20	SEM2	
3BM001	Introduction to Healthcare Science	20	SEM2	
3BM002	Principles of Biomedical Science	20	SEM2	
3CH001	Chemistry for Foundation Science	20	SEM2	
3MM002	Advanced Mathematics Skills	20	SEM2	
3AP001	Foundation Physics	20	SEM2	

## September (Full-Time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

### Year 2

Module	Title	Credits	Period	Type
4PY011	The Physicochemical Nature of Drugs	20	SEM1	Core
4BM004	Human Structure and 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 (Full-Time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

### Year 3

Module	Title	Credits	Period	Type
5BC001	Molecular Biosciences	20	SEM1	Core
5PY017	Pharmaceutical Microbiology	20	SEM1	Core
5PY010	Therapeutic Pharmacology	20	SEM1	Core
5PY015	Practical Pharmaceutical Techniques	20	SEM2	Core
5PY023	Contemporary Drug Design	20	SEM2	Core
5PY014	Principles of Drug Development and Formulation	20	SEM2	Core

## September (Full-Time)

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

### Year 4

Module	Title	Credits	Period	Type
6PY004	Honours Project (Pharmaceutical Sciences and Pharmacology)	40	YEAR	Core
6PY005	Advanced Pharmaceutical Formulation	20	SEM1	Core
6PY002	Pharmaceutical Biotechnology and Molecular Biology	20	SEM1	Core
6BC003	Quality Assurance and Biomolecular Analysis	20	SEM2	Core
6PY006	Biochemical Pharmacology	20	SEM2	Core

## Learning, Teaching and Assessment

Academic Regulations Exemption:

None

Reference Points:

- Quality Code - [Part A: Setting and Maintaining Academic Standards](#). Including :
  - [Qualifications Frameworks](#)
  - [Characteristics Statements](#)
  - [Credit Frameworks](#)
  - [Subject Benchmark Statements](#) - QAA Benchmarks for Pharmacy: <http://www.qaa.ac.uk/academicinfrastructure/benchmark/honours/pharmacy>
- Quality Code - [Part B: Assuring and Enhancing Academic Quality](#)
- [University Policies and Regulations](#)
- Equality Act (2010)

Learning Outcomes:

Foundation Year Course Learning Outcome 1 (UCCL01)

Solve real world problems using mathematical and statistical techniques.

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Foundation Year Course Learning Outcome 2 (UCCL02)

Communicate scientifically using oral and written skills to provide information to a variety of audiences.

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Foundation Year Course Learning Outcome 3 (UCCL03)

Demonstrate and apply problem solving skills to a range of scientific and technological scenarios.

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Foundation Year Course Learning Outcome 4 (UCCL04)

Demonstrate and apply knowledge of a range of scientific and technological subjects.

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Foundation Year Course Learning Outcome 5 (UCCL05)

Demonstrate personal development in terms of career choice.

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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 Course Learning Outcome 1 (ORDCLO1)

Demonstrate a systematic understanding of key aspects of pharmaceutical science, including acquisition of coherent and detailed knowledge, at least some of which is at, or informed by, the forefront of defined aspects of a discipline with an appreciation of the uncertainty, ambiguity and limits of knowledge.

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Ordinary Course Learning Outcome 2 (ORDCLO2)

Demonstrate an ability to deploy accurately established techniques of analysis and enquiry within pharmaceutical science and apply the methods and techniques that they have learned to review, consolidate, extend and apply your knowledge and understanding, and to initiate and carry out projects.

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Ordinary Course Learning Outcome 3 (ORDCLO3)

Demonstrate conceptual understanding that enables the student: A) to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of a discipline. B) to describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in the discipline.

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Ordinary Course Learning Outcome 4 (ORDCLO4)

Demonstrate the ability to manage your own learning, and to make use of scholarly reviews and primary sources (for example, refereed research articles and/or original materials appropriate to the discipline) and communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

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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 Course Learning Outcome 1 (DEGCLO1)

Demonstrate a systematic understanding of key aspects of pharmaceutical science, including acquisition of coherent and detailed knowledge, at least some of which is at, or informed by, the forefront of defined aspects of a discipline with an appreciation of the uncertainty, ambiguity and limits of knowledge.

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#### Honours Course Learning Outcome 2 (DEGCLO2)

Demonstrate an ability to deploy accurately established techniques of analysis and enquiry within pharmaceutical science and apply the methods and techniques that they have learned to review, consolidate, extend and apply your knowledge and understanding, and to initiate and carry out projects.

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#### Honours Course Learning Outcome 3 (DEGCLO3)

Demonstrate conceptual understanding that enables the student: A) to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of a discipline. B) to describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in the discipline.

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#### Honours Course Learning Outcome 4 (DEGCLO4)

Demonstrate the ability to manage your own learning, and to make use of scholarly reviews and primary sources (for example, refereed research articles and/or original materials appropriate to pharmaceutical science) and communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

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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.

#### Overview of Assessment:

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Module	Title	Course Learning Outcomes
3AB002	Orientation to Biosciences	UCCL02, UCCL04, UCCL05
3BM001	Introduction to Healthcare Science	UCCL02, UCCL04, UCCL05
3BM002	Principles of Biomedical Science	UCCL02, UCCL04, UCCL05
3CC002	Problem Solving Skills in Science and Technology	UCCL01, UCCL03, UCCL04, UCCL05
3CH001	Chemistry for Foundation Science	UCCL02, UCCL04, UCCL05
3CN001	Communication Life Skills	UCCL02, UCCL04, UCCL05
3MM001	Fundamental Mathematics Skills	UCCL01, UCCL04, UCCL05
3MM002	Advanced Mathematics Skills	UCCL01, UCCL04, UCCL05
3PY001	Orientation to Pharmaceutical Studies	UCCL02, UCCL04, UCCL05
4BM004	Human Structure and Function	CHECLO1, CHECLO2, CHECLO3, CHECLO4
4PY008	Introduction to Microbiology	CHECLO1, CHECLO4, CHECLO5
4PY009	Principles of Drug Action	CHECLO1, CHECLO2, CHECLO3, CHECLO4
4PY011	The Physicochemical Nature of Drugs	CHECLO1, CHECLO3, CHECLO4, CHECLO5
4PY012	Scientific Communication and Undergraduate Development	CHECLO2, CHECLO3, CHECLO4, CHECLO5
4PY013	Molecular Basis of Life	CHECLO1, CHECLO2, CHECLO3, CHECLO4
5BC001	Molecular Biosciences	DHECLO1, DHECLO3, DHECLO4, DHECLO5
5PY010	Therapeutic Pharmacology	DHECLO1, DHECLO3, DHECLO5
5PY014	Principles of Drug Development and Formulation	DHECLO1, DHECLO3, DHECLO4, DHECLO5, DHECLO6
5PY015	Practical Pharmaceutical Techniques	DHECLO1, DHECLO2, DHECLO4, DHECLO5, DHECLO6
5PY017	Pharmaceutical Microbiology	DHECLO1, DHECLO3, DHECLO5
5PY023	Contemporary Drug Design	DHECLO1, DHECLO2, DHECLO3, DHECLO4, DHECLO5
6BC003	Quality Assurance and Biomolecular Analysis	DEGCLO1, DEGCLO2, DEGCLO3, DEGCLO6, ORDCLO1, ORDCLO2, ORDCLO3, ORDCLO6
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, DEGCLO5, DEGCLO6, ORDCLO1, ORDCLO2, ORDCLO3, ORDCLO4, ORDCLO6
6PY005	Advanced Pharmaceutical Formulation	DEGCLO1, DEGCLO2, DEGCLO3, DEGCLO4, DEGCLO6, ORDCLO1, ORDCLO2, ORDCLO3, ORDCLO4, ORDCLO6
6PY006	Biochemical Pharmacology	DEGCLO1, DEGCLO3, DEGCLO4, DEGCLO5, ORDCLO1, ORDCLO3, ORDCLO4, ORDCLO5

### Teaching, Learning and Assessment:

You will undertake a wide range of learning activities including:-

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

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

- Written reports
- Essays
- Literature reviews
- Exams
- Group presentations
- Poster presentations

All summative assessments will be supported by equivalent formative assessments which will enable you to gain the skills necessary to achieve the learning outcomes of the course. A particular focus will be placed on practical and analytical skills and support to develop these will be provided through extensive practical training at each level of the course. Analytical skills will be developed sequentially throughout each year of the course and you will gain extensive experience in data generation, interpretation and manipulation. Workshops and small group tutorials will provide extensive support in developing these skills

The overall aim of the course is to develop independent learners who are able to reflect on their learning in a professional manner and apply acquired knowledge in an integrated fashion.

### Learning and Teaching Methods:

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This data indicates the proportion of time in each year of study that students can expect to engage in the following activities (expressed as a percentage for each level).

Level	Teaching	Independent	Placement
3	21	79	0
4	22	78	0
5	24	76	0
6	24	76	0

### Assessment Methods:

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This data indicates the proportion of summative assessment in each year of study that will derive from the following: (expressed as a percentage for each level).

Level	Written Exams	Practical Exams	Coursework
3	59	2	39
4	65	7	28
5	72	22	7
6	45	12	43

### Student Support:

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A wide range of support for learning will be available to Pharmaceutical Science 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 pharmaceutical science 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, medical writing and teaching.

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.