Course Specification
Part A

BSc Hons Pharmacology
HLSU228

Faculty of Health and Life Sciences
School of Life sciences

Academic Year: 2021/2022

Please note: This specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided.

We regularly review our course content, to make it relevant and current for the benefit of our students. For these reasons, course modules may be updated.

More detailed information on the learning outcomes, content, and teaching, learning and assessment methods of each module can be found in the Module Information Directory (MID), student module guide(s) and the course handbook.

The accuracy of the information contained in this document is reviewed by the University and may be verified by the Quality Assurance Agency for Higher Education.

PART A Course Specification (Published Document)

BSc Hons Pharmacology

1. Introduction

Pharmacology is the study of drugs and their effects on living systems. It involves a multidisciplinary approach incorporating aspects of human physiology, cell biology, biochemistry, genetics and molecular biology, underpinned by chemical principles. This course will equip you with the skills and knowledge to contribute to current and emerging challenges in the understanding of drug actions and reactions and the development of new drugs to help fight disease. BSc Pharmacology is designed to meet the demand for suitably trained professionals within the global pharmaceutical industry to expedite the critical task of translating basic laboratory medical research into technology and drugs that can be used to diagnose and treat patients. Employment opportunities include pharmaceutical research and development roles, clinical trials, drug regulation and sales and marketing. This degree will also open-up opportunities for exciting careers including medical and life sciences research, biotechnology companies, toxicology, scientific writing or teaching. You may extend your academic studies through an MSc programme, such as our MSc Pharmacology and Drug Discovery, MSc Molecular Biology or MSc Biotechnology options, or consider graduate entry to MSc Physician's Associate courses or to medical and dental school. The skills and attributes developed within the course, particularly those of critical analysis, also provide a good foundation for non- scientific career routes such as the Civil Service, local government and management roles.

The first year of the course provides you with a firm foundation of knowledge covering the multidisciplinary underpinning subjects related to pharmacology. You will study cell and molecular biology, human physiology, biochemistry, genetics and microbiology plus an introduction to pharmacological principles. The first year of study is shared with our other bioscience courses (BSc Human Biosciences and BSc Biomedical Science). In the second year of study, you will focus on understanding human disease processes and the modes of action of drugs used for therapy. The final year includes in depth consideration of cancer therapeutics, cardiovascular and neuropharmacology and the drug development process, reflecting the research expertise of the course team. BSc Pharmacology staff are active members of the Faculty Research Centre and also have close links with InoCardia, an onsite cardiovascular research company. We have strong links with our alumni, plus you will have opportunities to learn from guest lecturers who are experts within pharmacological research and industry, enhancing your understanding of contemporary topics and providing access to a wide range of professional networks and links within the discipline.

You will benefit from the outstanding facilities in our purpose-built Science and Health building (opened in 2017), including LabPlus (a 250 person biomedical laboratory facility) and an analytical chemistry suite. These facilities will allow you to gain hands on experience in contemporary laboratory techniques including mammalian cell culture, high performance liquid chromatography, real time polymerase chain reaction and pharmacological measurement systems.

The course provides many opportunities to enhance your study experience. During integrated enhancement weeks scheduled each year, there are options to take part in international field trips, opportunities to improve particular skills and competencies, such as computing and statistics, and to explore careers options. Students who are unable to take part in international field trips will have alternative intercultural opportunities available on campus, such as extended group projects linking with field trip groups. You have the option to incorporate a Sandwich year, taken between years 2 and 3, in which you can choose either a full year of study abroad, or a year of appropriate work experience, in a variety of settings. These activities, which are supported by our Faculty employability advisors, provide opportunities to gain valuable experience to enhance future career opportunities.

Upon completion of your course you will be equipped with the knowledge and hands on practical experience to provide the scientific and pharmaceutical industries with the skilled workforce required to maintain and advance their activities to meet the global challenges of health and disease.

2 Available Award(s) and Modes of Study			
	Mode of attendance	UCAS Code	FHEQ Level
BSc Hons Pharmacology BSc Pharmacology * DipHE Pharmacology* DipHE (Unnamed) CertHE (unnamed) * * Available as fall back awards only	FT 3 years SW 4 years Year abroad (4 years)	B210	Level 6

3 Awarding Institution/Body	Coventry University.
4 Collaboration	N/A
5 Teaching Institution and Location of delivery	Coventry University Main campus
6 Internal Approval/Review Dates	Date of approval*/latest review*: Dec 2019 Date for next review: Academic year 2027-28
7 Course Accredited by	
8 Accreditation Date and Duration	
9 QAA Subject Benchmark Statement(s) and/or other external factors	♦ Informed by QAA Biosciences (Nov 2015) subject benchmark statements. In addition to the generic statements, particular sections 6.5, 6.6 and 8.9 apply https://www.qaa.ac.uk/.../qaa/subject-benchmark.../sbs-biomedical-sciences ♦ The course is also mapped against the guidelines set out by the British Pharmacological Society https://www.bps.ac.uk/education-engagement/teaching-pharmacology/undergraduate-curriculum ♦ and the Degree Accreditation criteria for the Royal Society of Biology https://www.rsb.org.uk/education/accreditation/Degree-Accreditation

10 Date of Course Specification	Oct 2019
11 Course Director	Dr Ellen Hatch

12 Outline and Educational Aims of the Course

The educational aims of the course are to:

1. Equip students with an in-depth knowledge of the physiological and pathophysiological processes within the human body and diagnostic and pharmacological strategies to prevent and treat disease.
2. Enable students to develop skills and strategies to apply their knowledge to address global issues in human health, disease and treatment, in a fast advancing scientific and technical environment.
3. Provide a stimulating learning experience that encourages an inquisitive approach to enable students to become lifelong learners in their professional discipline.
4. Provide supervised opportunities for development of contemporary laboratory skills and competencies in pharmacology, including data analysis and interpretation, enabling students to progress as independent laboratory and research scientists.
5. Provide opportunities for students to plan and carry out a research-based project in pharmacology, and to develop the associated skills of time and resource management, independent and team-based working and problem solving.
6. Provide enriching experiences that support and enhance the academic curriculum, to allow students to develop their potential.
7. Ensure that students are aware of, and can work within, the ethical and professional codes of conduct appropriate for their field.

13 Course Learning Outcomes

On successful completion of the course a student will be able to:

1. Demonstrate an in-depth knowledge and understanding of the scientific basis of human health and disease and be able to apply this knowledge to explain current and future pharmacological approaches.
2. Demonstrate an in depth understanding of the mechanism of action of commonly prescribed pharmacological agents.
3. Perform a wide range of commonly used laboratory techniques competently, with due regard to health and safety, appropriate experimental design and data recording.
4. Access, synthesise, critically analyse and present scientific information in multiple formats suitable for diverse audiences.
5. Analyse and interpret data from a range of different sources, including large data sets, using appropriate digital technology.
6. Take a problem-solving approach to formulate and evaluate hypotheses and aims, illustrating rigorous experimental design and record keeping.
7. Design, carry-out and analyse data from a research based independent project, demonstrating due consideration and compliance with ethical and health and safety regulations.
8. Collaborate in a professional manner when working and communicating with professionals and peers.
9. Demonstrate responsibility for their own learning and enhance career development opportunities.

14 Course Structure and Requirements, Levels, Modules, Credits and Awards

BSc Hons Pharmacology is available as a 3 year full time course, or a 4 year option incorporating either a work experience placement or a study year abroad.

All modules are mandatory, apart from those associated with the optional Sandwich year. The modules studied at each year of the course, their credit value (Learning and Assessment Credits) and their mapping to the course learning outcomes are shown in Table 1.

Table 1: Modules studied on BSc Hons Pharmacology

Credit level	Module Code	Title	Credit Value (Learning Credits)	Credit Value (Assess-ment Credits)	Mandatory/ Optional	Course Learning Outcomes
Year 1:						
4	4024BMS	Human Physiology from Cells to Systems (S1)	20	20	M	1, 3, 4
4	4025BMS	Genotype to Phenotype (S1)	20	20	M	1, 3, 4, 5, 6, 8
4	4026BMS	Structure, Function and Analysis of Biomolecules (S1)	20	20	M	1, 3, 4, 5
4	4027BMS	Academic and Professional Development for Life Sciences (S1)	0	0	M	8, 9
4	4029BMS	The Microbial World (S2)	20	20	M	1, 3, 4, 5
4	4028BMS	Enzymes and Metabolism (S2)	10	10	M	1, 3, 4, 5
4	4030BMS	Drugs, Receptors and Responses (S2)	10	10	M	1, 3, 4, 5
4	4031BMS	Professional Practice for Life Scientists (S2)	10	10	M	3, 5, 8, 9
4	**Add+Vantage**	Choice (S2)	10	10	M	
Year 2:						
5	5040BMS	Pharmacology and Pathophysiology 1 (S1)	20	20	M	1, 2, 3, 4, 5
5	5044BMS	Cell and Molecular Biology for Pharmacologists (S1)	20	20	M	1, 3, 4, 5, 6, 8
5	5042BMS	Essential Techniques for Pharmacologists (S1)	20	20	M	3, 4, 5, 6
5	5041BMS	Pharmacology and Pathophysiology 2 (S2)	20	20	M	1, 2, 4, 5, 8
5	5043BMS	Immunology and Inflammation (S2)	20	20	M	1, 2, 4, 8
5	5047BMS	Research and Professional Skills Development (S2)	10	10	M	3,4, 5, 6, 7, 8, 9
5	**Add+Vantage**	Choice (S2)	10	10	M	
Sandwich Year:						

5	5001BMS	Professional Experience Placement Year	0	0	O	8, 9
5	5002BMS	Enhancement Year	0	0	O	8, 9
Year 3:						
6	6044BMS	Cancer Biology and Therapeutics (S1)	20	15	M	1, 2, 4
6	6047BMS	Advanced Topics in Cardiovascular and Neuropharmacology (S1)	20	15	M	1, 2, 4, 8
6	6046BMS	Synoptic Assessment in Pharmacology (S1)	0	10	M	1, 2, 4
6	6045BMS	Research Design for Pharmacology (S1)	10	10	M	4, 6, 7, 8, 9
5	**Add+Vantage**	Choice (S1)	10	10	M	
6	6048BMS	Drug Development: Past, Present and Future (S2)	30	30	M	1, 2, 4, 5
6	6043BMS	Toxicology, Addiction and Abuse (S2)	10	10	M	1, 2, 4
6	6049BMS	Independent Research Project for Pharmacology (S2)	20	20	M	1, 2, 4, 5, 6, 7, 8, 9

Modules are designed based on the academic content and competency criteria required for Royal Society of Biology accredited courses. They are informed by the subject specific knowledge, understanding and skills specified by the QAA Benchmark Statement, and the curriculum and skills guidelines of the British Pharmacological Society.

Year 1 modules (Level 4) provide the key framework of skills and knowledge. This includes a firm understanding of core areas of modern biosciences, from the cellular and molecular level through to whole body anatomy and physiology. These subjects are underpinned by relevant aspects of chemistry, maths and data analysis. The topics are taught in an integrated manner to ensure that the links between disciplines such as biochemistry, physiology and pharmacology are evident. Students are supported to become confident, competent and safe laboratory scientists. Individual professional development activities enable students to identify strategies and approaches to enhance their own capabilities and to build their professional profile in preparation for successful placement application and ultimately for post-graduation careers.

At Year 2 (level 5 modules), modules explore in more depth the cellular and molecular mechanisms underlying disease states and pharmacological approaches to their treatment. Key pharmacological principles, the modes of action of particular drug types and laboratory techniques relevant for modern pharmacology are core features of this stage of the course. Students undertake a group based investigative project to enhance research and professional skills development.

On successful completion of Years 1 and 2, students may elect to apply for either a one year work experience placement, or a year of study abroad. These opportunities offer highly valued opportunities to enhance learning and gain a competitive advantage in the workplace after graduation. Students taking this option will take an additional year to complete their degree. Students taking the work experience option enrol on 5001BMS (Professional Experience Placement) and those who opt for the study year abroad enrol on 5002BMS (Enhancement Year). These modules must be passed for this Sandwich year to be recognised. Work Experience placements are competitive and successful acceptance cannot be guaranteed. Our Faculty employability advice team offer support for students in the application process. Students should note that some work placements may require additional health and professional suitability checks including criminal record checking via the Disclosure and Barring Service (DBS). If students are unable to meet the health and suitability requirements, then the choice of placement opportunities will be restricted.

In Year 3, students explore in depth contemporary areas of pharmacology including cancer therapeutics, cardiovascular and neuropharmacology, drug addiction and abuse and the drug development process. Students plan, implement and report an investigative project in an area of pharmacology of their choice, with opportunities to present their findings at the School of Life Sciences Student Research Conference.

Each stage of the course also includes an Add+Vantage module. The Add+Vantage scheme is designed to enhance students' skills and competencies for employment. Modules offered within this scheme are varied and students can choose from options in enterprise, business, marketing, languages, academic skills, voluntary work and other areas that enhance employability.

Further details of the Add+Vantage scheme are available at:

https://share.coventry.ac.uk/students/Add-vantage/Pages/NewHome.aspx

Throughout the course students are supported academically by their designated Academic Personal Tutor (APT) and also by access to the Centre for Academic Writing (CAW) and the award-winning Sigma Mathematics Support Centre. The "Flying Start" Scheme provides students with key resources needed for all three years of study, such as access to key texts.

Cascade of Awards:

BSc (Hons) Pharmacology
↓
BSc Pharmacology
↓
Diploma of Higher Education Pharmacology
↓
Diploma of Higher Education (unnamed)
↓
Certificate of Higher Education (unnamed)

The criteria for each award follow the general academic regulations (mode E) of the University. These can be found at:

https://www.coventry.ac.uk/Documents/Registry/Regulations%20Academic/Academic-Regulations-2018-2019.pdf

For award of BSc Hons Pharmacology, the project module 6049BMS must be included in the classification calculation. For award of DipHE Pharmacology the following modules must be passed: 4024BMS, 4025BMS, 4026BMS, 4027BMS, 4028BMS, 4029BMS, 4030BMS, 4031BMS, 5040BMS, 5041BMS, 5042BMS, 5043BMS, 5044BMS, 5047BMS.

Progression to subsequent stages of the degree is subject to University Regulations.

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15 Criteria for Admission and Selection Procedure

UCAS entry profiles may be found by searching for the relevant course on the UCAS website, then clicking on 'Entry profile'.

Normal Entry Requirements for Degree Courses:

Applicants should normally meet the entry requirements of the course as detailed on our University website: http://www.coventry.ac.uk/study-at-coventry/course-search/.

Non-standard applicants will be considered for entry to the course and admission will be at the discretion of the Course Director and the Admission Tutor.

Recognition for prior learning (RPL) or prior experiential learning (RPEL) may be granted for modules at the discretion of the Course Director providing that adequate evidence of learning is submitted by the student in accordance with University guidelines. RPL/RPEL will be limited to the maximum specified in University Regulations.

16 Academic Regulations and Regulations of Assessment

This Course conforms to the standard University Academic Regulations Undergraduate Mode E.

17 Indicators of Quality Enhancement

The Course is managed by the School of Life Sciences Board of Study of the Faculty of Health and Life Sciences.

The Progression and Award Board (PAB) for Biomolecular Sciences is responsible for considering the progress of all students and making awards in accordance with both the University and course-specific regulations.

The assurance of the quality of modules is the responsibility of the Boards of Study which contribute modules to the course.

External Examiners have the opportunity to moderate all assessment tasks and a sample of assessed work for each module. They report annually on the course and/or constituent modules and their views are considered as part of the Course Quality Enhancement Monitoring (CQEM). Details of the CQEM process can be found on the Registry web site.

Students are represented on the Student Forum, Board of Study and Faculty/School Board, all of which normally meet a minimum of two or three times per year.

Student views are also sought through module and course evaluation questionnaires.

The following are key indicators of quality and standards:

- The course has been designed in accordance with the QAA Quality Code for Higher Education (May 2018), and the relevant QAA Subject Benchmark Statement (Biomedical Science, 2015)
- The course has been mapped to the educational standards and competencies specified by Royal Society of Biology (RSB) for accreditation of undergraduate degrees. The course is also aligned to comply with the recommended content from the British Pharmacological Society (BPS) for which students will be eligible for professional membership.
- The course team are specialists within their subject discipline and maintain close links with the pharmaceutical industry and other relevant fields of employment. Staff undertake a post-graduate qualification in higher education teaching and many are Associate Fellows, Fellows and Senior Fellows of the Higher Education Academy (HEA)
- Many staff are active members of the RSB, BPS and other professional bodies.
- Many staff are actively involved in research within the Faculty Research Centre for Sport, Exercise and Life Sciences (SELS).
- The QAA's review of higher education undertaken in February 2015 confirmed that Coventry University meets UK expectations in:
    - the setting and maintenance of the academic standards of its awards;
    - the quality of student learning opportunities;
    - the quality of the information about learning opportunities;
    - the enhancement of student learning opportunities.
- The University was Awarded Gold Standard in the Teaching Excellence Framework (TEF).

18 Additional Information

Enrolled students have access to additional, key sources of information about the course and student support including:

Faculty/School Handbook

Student Handbook

Module Information Directory

Maths and Statistics Support (SIGMA)

Centre for Academic Writing (CAW)

Library Support including designated Subject Librarian

Virtual learning environment

Employability and Careers Support

24 hour IT support

Student well-being/TheHub