

Title of Programme: BSc (Hons) Pharmaceutical Science

Programme Code: LMPSC

Programme Specification

This programme specification is relevant to students entering:
25 September 2023

Associate Dean of School (Academic Quality Assurance):
Sherael Webley

Signature



A programme specification is a collection of key information about a programme of study (or course). It identifies the aims and learning outcomes of the programme, lists the modules that make up each stage (or year) of the programme, and the teaching, learning and assessment methods used by teaching staff. It also describes the structure of the programme, its progression requirements and any programme-specific regulations. This information is therefore useful to potential students to help them choose the right programme of study, to current students on the programme, and to staff teaching and administering the programme.

Summary of amendments to the programme:

Section	Amendment

If you have any queries regarding the changes please email AQO@herts.ac.uk

Programme Specification

BSc (Hons) Pharmaceutical Science

This programme specification (PS) is designed for prospective students, enrolled students, academic staff and potential employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the teaching, learning and assessment methods, learning outcomes and content for each module can be found in Definitive Module Documents (DMDs).

Section 1

Awarding Institution/Body	University of Hertfordshire
Teaching Institution	University of Hertfordshire
University/partner campuses	College Lane
Programme accredited by	Not applicable
Final Qualification	BSc (Hons)
All Final Award titles	Pharmaceutical Science
(Qualification and Subject)	Pharmaceutical Science with Year Abroad Pharmaceutical Science (Sandwich)
FHEQ level of award	6

A. Programme Rationale

- This programme was designed with extensive input from external stakeholders from pharmaceutical and biotechnology companies to meet the needs of the ever evolving pharma industry in the UK and worldwide.
- This programme will produce graduates who are able to contribute to research, discovery, development and production in the pharmaceutical industry and related areas. The emphasis on transferable, as well as specialist skills, will equip graduates with these qualities to enter a range of other professions.
- The programme enables students to lay a strong foundation in biology, chemistry and pharmacology and build on this to apply these subjects to the various stages in medicine discovery development and production. Particular attention is paid to the practical laboratory skills with the number of laboratory based practical hours greatly enhanced students' practical ability and has received positive feedback from prospective employers engaged in the continuous programme enhancement. The principles of GxP and documentation to equip the graduates for entry level positions in the pharmaceutical industry have also been extensively included at the employers' request.
- The optional industrial placement sandwich year or study abroad year give students the opportunity to supplement their formal education with invaluable research experience and form links with potential employers.
- This programme also equips students with the foundation skills required for taught postgraduate study or postgraduate research programmes in this field.
- Following successful completion of this programme and a further period of relevant experience whilst working in a suitable field, graduates may be eligible to apply to become a Pharmaceutical Scientist member of the Royal Pharmaceutical Society or an Associate member of the Royal Society of Chemistry.

B. Educational Aims of the Programme

Diversity and Inclusion

Our programmes are purposefully designed to enable all students to engage meaningfully with the curriculum by being accessible and representative. We will support students to shape their learning experience, removing barriers and enabling them to succeed. The curriculum explicitly includes multiple and representative perspectives, valuing collective identities and individual diversity. Learning, teaching and assessment activities help students to understand how they can enhance outcomes both for themselves and

for others. All students belong to a learning community, and during their studies we really want to hear their voices, encourage them to listen to others, and express themselves.

The programme has been devised in accordance with the University's graduate attributes of programmes of study as set out in [UPR TL03](#).

Additionally this programme aims to:

- enable students to develop the high level knowledge, practical and analytical skills appropriate to the discovery, design, development, formulation, and manufacture of pharmaceutical products.

Graduate Attributes

Our graduates will be capable and professional, creative and enterprising, and will build their social and global awareness throughout. In addition to their subject expertise and proficiency, as a University of Hertfordshire graduate, they will be:

- Professionally focused
- Globally minded
- Sustainability driven
- Digitally capable and confident
- Inclusive and collaborative
- Evidence based and ethical

C. Intended Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills and other attributes in the following areas. The programme outcomes are referenced to and the Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014) and relate to the typical student. Additionally, the SEEC Credit Level Descriptors for Further and Higher Education (2021) have been used as a guiding framework for curriculum design.

Knowledge and Understanding	Teaching and learning methods	Assessment strategy
<p>A1- understand and apply the fundamental chemical and biological principles on which pharmaceutical sciences is based;</p> <p>A2- understand the molecular basis of the discovery, design, synthesis and mode of action of drugs;</p> <p>A3- apply an understanding of microbiology and immunology to the preparation and supply of sterile medicines and the control of sterility in pharmaceutical manufacture and storage;</p> <p>A4- apply the principles of medicinal, analytical and process chemistry to drug design, synthesis and manufacture;</p>	<p>Acquisition of knowledge and understanding is through a combination of lectures, laboratory classes, workshops throughout the course, as well as the project and, for sandwich students, the industrial training experience.</p> <p>Throughout, the learner is encouraged to undertake independent study both to supplement and consolidate what is being taught/learnt and to broaden their individual knowledge and understanding of the subject.</p> <p>Acquisition of A1 is introduced through all level 4 modules, specifically the <i>Foundations of Pharmaceutical Chemistry, Biology and Biochemistry</i>, and <i>Human Physiology and</i></p>	<p>Knowledge and understanding are assessed through a combination of laboratory reports, seminars, group work, problem solving, interpretive exercises, written assignments, the project and timed assessments (A1-A7).</p> <p>Performance on the placement year (A8) is assessed by a report and the performance of the student during the year as monitored by the industrial and academic supervisors.</p>

<p>A5- understand the principles of pharmacokinetics, product formulation, and delivery route underlying the optimization of drug administration;</p> <p>A6- understand the main analytical techniques and instrumentation used in pharmaceutical dosage form development and testing;</p> <p>A7- be familiar with and able to apply the regulations governing pharmaceutical product development;</p> <p>A8- gain experience from a work placement (i.e. sandwich students) and/or period overseas.</p>	<p><i>Pharmacology</i> modules. It is further built upon throughout levels 5 and 6.</p> <p>A2 is covered in <i>Foundations of Pharmaceutical Chemistry, Human Physiology and Pharmacology, Pharmacology, Methods in Drug Design</i> and all level 6 modules.</p> <p>A3 is covered in <i>Human Physiology and Pharmacology</i> and more specifically in <i>Dosage Form Design and Manufacture</i> at level 5.</p> <p>A4 is covered in the specialist level 5 modules, <i>Methods in Drug Design</i> and <i>Dosage Form Design and Manufacture</i>.</p> <p>A5 is achieved through the <i>Pharmacology</i> and <i>Dosage Form Design and Manufacture</i> modules.</p> <p>A6 is primarily achieved through the two analytical modules (<i>Fundamentals of Analytical Chemistry</i> and <i>Advanced Analytical Techniques and Quality Assurance</i>) and the <i>Project</i>.</p> <p>A7 is covered throughout the entire course where the regulations are integrated into all modules, but specifically in the level 5 module advanced analytical techniques and quality assurance and the level 6 modules <i>Pharmaceutical Industry Practice</i> and <i>Applied and Integrated Pharmaceutical Science</i>.</p> <p>Acquisition of A8 is achieved in the optional industrial placement/ year abroad.</p>	
Intellectual skills	Teaching and learning methods	Assessment strategy
<p>B1- understand the ethical implications of their work;</p> <p>B2- execute and report a research project in order to develop the necessary skills for independent research;</p>	<p>Intellectual skills are developed through various activities and exercises throughout the programme. Specifically, students are given a firm grounding in ethical practices in science (B1) throughout level 4 with issues further developed specific to</p>	<p>Intellectual skills B1 and B3 are assessed through laboratory reports, written assignments and the group work in the pharmaceutical industry practice module.</p>

<p>B3- apply theoretical concepts to the study of pharmaceutical science and evaluate the relationship between theory and practice;</p> <p>B4- develop and demonstrate an understanding of thinking scientifically and applying this to assessments and the study of pharmaceutical science;</p> <p>B5- demonstrate at a level appropriate to the award, a critical approach in enquiry and a readiness to test hypothesis, interpret scientific data and evaluate published literature.</p>	<p>pharmaceutical science in the level 5 modules.</p> <p>B2 is predominantly achieved through the <i>Project</i> module at level 6.</p> <p>The relationship of theory to practice (B3) is a fundamental basis of the programme and is achieved throughout all modules and very specifically is the basis of the optional placement year.</p> <p>Workshops throughout all modules form the basis for B4, which is also supplemented through the personal academic tutors and specifically applied to clinical research in the level 6 module <i>Applied and Integrated Pharmaceutical Science</i>.</p> <p>To acquire B5 statistical analysis is introduced in <i>Human Physiology and Pharmacology</i> at level 4 and reinforced and strengthened through the workshops in the <i>Project</i> module at level 6. Critical evaluation of scientific data is introduced in level 5 and developed throughout level 6 modules most noticeably the <i>Project</i>.</p> <p>Throughout, the learner is encouraged to develop intellectual skills further by independent study.</p>	<p>B2 is assessed through the production of a dissertation and poster presentation in the project module at level 6.</p> <p>B4 and B5 are assessed through laboratory reports, unseen tests, examinations, interpretive exercises, seminars, vivas and the project.</p>
<p>Practical skills</p> <p>C1- acquire appropriate laboratory skills, including safe working practices where relevant;</p> <p>C2- acquire appropriate analytical instrumentation skills;</p> <p>C3- acquire appropriate documentation and record keeping skills;</p> <p>C4- design experiments and analyse and interpret data.</p> <p>C5 – integrate theoretical concepts, professional framework and practical</p>	<p>Teaching and learning methods</p> <p>Practical skills are developed through all modules in the programme, most of which contain a heavy practical component.</p> <p>Laboratory skills (C1) are built up during level 4 and 5 and consolidated in the level 6 <i>Project</i>.</p> <p>Analytical skills (C2) are specifically introduced in the <i>Fundamentals of Analytical Chemistry</i> module at level 4, developed through the <i>Advanced Analytical Techniques and Quality</i></p>	<p>Assessment strategy</p> <p>Practical skills are assessed through both formative and summative assessment in laboratory classes and assessed practicals; laboratory reports, interpretative exercises, group work and the project.</p> <p>C5 will be assessed by a report and the performance of the student during the year as monitored by the industrial and academic supervisors.</p>

skills in a professional working environment	<p><i>Assurance</i> module at level 5 and reinforced in the <i>Project</i> at level 6.</p> <p>C3 and C4 are developed throughout all practical components of the course, with C4 particularly a key component of the level 6 <i>Project</i> module. Data analysis is introduced through assignments at level 4 in the <i>Human Physiology and Pharmacology</i> module and further developed in the level 5 module <i>Pharmacology</i>.</p>	
Transferable skills	Teaching and learning methods	Assessment strategy
<p>D1- communicate effectively both orally and in written form;</p> <p>D2- use effectively a range of information sources;</p> <p>D3- organise and present intellectual argument commensurate with the level of award;</p> <p>D4- work effectively both alone, and as part of a team;</p> <p>D5- demonstrate numeracy and manipulate, analyse and present data;</p> <p>D6- develop the skills required for continued self-managed professional development;</p> <p>D7- develop the skills necessary to gain a knowledge and understanding of pharmaceutical science topics in a different cultural environment.</p>	<p>Transferable skills are developed through all modules on the programme, specifically acquisition of D1 is introduced through exercises in level 4 such as laboratory reports and assignments; seminars, presentations and group work, developed throughout level 5 and further enhanced through the group working scenarios in <i>Pharmaceutical Industry Practice</i>, the viva in <i>Applied and Integrated Pharmaceutical Science</i> and the <i>Project</i> poster at level 6.</p> <p>Acquisition of D2 is through induction classes at all three levels and in lectures, workshops and problem solving exercises in levels 4 and 5. Higher level skills are obtained and demonstrated through the planning and conduct of the <i>Project</i> and the group project work in the <i>Pharmaceutical Industry Practice</i> module at level 6. In both these level 6 modules, information seeking will be facilitated by the project tutor or group mentor respectively.</p> <p>The teaching of D3 is initiated in <i>Biology and Biochemistry</i> with exercises on report writing; during year 1, personal academic tutors give feedback on written assignments and practical reports from a number of modules to facilitate the development of skills; seminars at level 6 in the <i>Project</i> module and the <i>Project</i> itself make a significant</p>	<p>Transferable skills D1, D2 and D3 are assessed through a combination of essays, abstracts, laboratory reports, posters, seminars, group reports, the <i>Project</i> report and open book examinations throughout the course. Performance in these skills are monitored by personal academic tutors.</p> <p>D4 is assessed formatively by feedback in the laboratory, workshops and personal tutor groups and summatively in individual and group reports, poster presentations and the project. Testing of this skill is a major component of the assessment of the sandwich year (if taken).</p> <p>D5 (numeracy) is assessed through many of the laboratory assessments, particularly in modules such as <i>Biology and Biochemistry</i>, <i>Fundamentals of Analytical Chemistry</i> and <i>Advanced Analytical Techniques</i> and <i>Quality Assurance</i>, and the <i>Project</i>.</p> <p>D6 is assessed through the placement report (if a sandwich year is taken) and through the project.</p> <p>D7 is assessed through a placement report and are</p>

<p>contribution to the development of this skill.</p> <p>The acquisition of D4 is throughout all the practical components of the programme where students are required to work alone or as part of a team and in some modules, to carry out group assignments. This will be particularly developed and demonstrated in the group work of the level 6 module <i>Pharmaceutical Industry Practice</i>.</p> <p>The acquisition of D5 (numeracy) is initiated in lectures, workshops and class exercises in all modules at level 4 and is developed and reinforced throughout the programme in laboratory classes, workshops, personal academic tutor meetings and the project. Students have access to mathematics drop in sessions.</p> <p>The development of self-management skills (D6) is facilitated and monitored by personal academic tutors involving discussion of skills relevant to successful performance on the degree and future employability. The placement year (if taken) makes significant contributions to the attainment of this skill.</p> <p>Throughout, the learner is encouraged to develop transferable skills by maintaining a record of evidence and completing a personal development plan. Students are encouraged to develop transferable skills whilst working or studying in a different cultural environment.</p>	<p>assessed by their placement supervisor.</p>
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D. Programme Structures, Features, Levels, Modules, and Credits

The programme is offered in full time (3 years), sandwich (4 years) and year abroad (4 years) modes, and leads to the award of a BSc with Honours in Pharmaceutical Science. Intake is normally semester A (September). Entry is normally at level 4 with A-level or equivalent qualifications but is possible at level 5 or 6 with suitable qualifications (HND or successful completion of level 4/5 of comparable degrees elsewhere).

Professional and Statutory Regulatory Bodies

N/A

Work-Based Learning, including Sandwich Programmes

Sandwich Year/Year Abroad (Optional)

The designated sandwich programme leads to a University sandwich award and the word "Sandwich" appears on the award certificate. The sandwich award requires the student to successfully complete a period of approved work experience (industrial/research placement) of at least 30 weeks, excluding holidays, full-time equivalent placement activity, normally between the end of Year 2 and the beginning of Year 4. To achieve this, students must start their placement before 1st October. The placement will normally be completed within the United Kingdom, but there is also an option to study abroad at approved partner institutions. A year abroad is deemed to be not less than two semesters in the host institution. Progress of the student's development is monitored by visits, either face to face or online, from the University's academic staff. Students will be required to document this period of work in accordance with the guidelines produced by the student handbook provided but the placement module leader. Students on sandwich placement will be registered on the Sandwich Year Placement module (6LMS0023) and those that study abroad on the Year Abroad module (6LMS0022). Subject to the requirements of the employer, an enhanced Disclosure and Barring Service check may be required before a student can be offered a placement.

Year Abroad (Optional)

The designated year abroad programme leads to a University Year Abroad award with the words 'Year Abroad' on the award certificate. The additional year comprises an agreed programme of study in the third year at a partner institution (other than the UK), with whom the University of Hertfordshire has an institutional agreement. The programme of study will support, supplement and extend the more usual three-year programme. Success in the third year abroad will be recognised in the title of award, but does not carry additional credit towards the Honours programme.

Prior to the commencement of the Year Abroad, the student and Programme Officers from UH and the host institution will agree a learning contract and mode of assessment. The programme, provided by the host institution, may consist of taught modules, a research project or a mixture of these components. The student will normally elect for this mode of study on initial enrolment at UH. The student must confirm his or her intention to study abroad during the first term of study at Level 5. This will enable a place to be negotiated at a host institution and the study programme to be arranged and agreed. Only a limited number of places exist and they will be made available on a competitive basis. Selection will take into account the student's academic performance on the programme.

Student Exchange programme

Incoming Exchange

N/A

Study Abroad

N/A

Programme Structure

The programme structure and progression information below (Table 1a and 1b) is provided for the Honours award. Any interim awards are identified in Table 1b. The Programme Learning Outcomes detailed above are developed and assessed through the constituent modules. Table 2 identifies where each learning outcome is assessed.

Table 1a Outline Programme Structure

BSc Pharmaceutical Science

Mode of study Full time, Sandwich

Entry point Semester A

Level 4

	Module Code	Credit Points	% Test	% Examination	% Coursework	% Practical	Semesters
Compulsory Modules							
Module Title							
Foundations of Pharmaceutical Chemistry	4LMS0111	30	50	0	50	0	AB
Fundamentals of Analytical Chemistry	4LMS0110	30	50	0	50	0	AB
Human Physiology and Pharmacology	4LMS0002	30	0	0	100	0	AB
Biology and Biochemistry	4LMS0112	30	50	0	50	0	AB

Mode of study Full time, Sandwich

Level 5

	Module Code	Credit Points	% Test	% Examination	% Coursework	% Practical	Semesters
Compulsory Modules							
Module Title							
Dosage Form Design and Manufacture	5LMS0024	30	50	0	50	0	AB
Advanced Analytical Techniques and Quality Assurance	5LMS0058	30	50	0	50	0	AB
Methods in Drug Design	5LMS0059	30	50	0	50	0	AB
Pharmacology	5LMS0025	30	0	50	50	0	AB

Year 3 (Sandwich Pathway only)

	Module Code	Credit Points	% Test	% Examination	% Coursework	% Practical	Semesters
Compulsory Modules							
Module Titles							
Sandwich Year: Bioscience	6LMS0023	0	0	0	P/F	0	AB

Year 3 (Year Abroad Pathway only)

Compulsory Modules Module Titles	Module Code	Credit Points	% Test	% Examination	% Coursework	% Practical	Semesters
Year Abroad: Bioscience	6LMS0022	0	0	0	P/F	0	AB

Final Year

Mode of study Full time, Sandwich

Compulsory Modules Module Title	Module Code	Credit Points	% Test	% Examination	% Coursework	% Practical	Semesters
Project	6LMS0076	60	0	0	75	25	A
Pharmaceutical Industry Practice	6LMS0077	15	0	0	80	20	B
Applied and Integrated Pharmaceutical Science	6LMS0027	15	0	0	100	0	B

Select one of the following 30 credit optional modules listed below:

Optional Modules Module Titles	Module Code	Credit Points	% Test	% Examination	% Coursework	% Practical	Semesters
Topics in Medicine Design	6LMS2027	30	50	0	50	0	B
Advances in Pharmaceutical Formulation and Drug Delivery	6LMS0079	30	0	0	100	0	B

Progression to level 5 requires a minimum of 120 credits.

Progression to level 6 requires 240 credits with a minimum of 120 credits at level 5.

The award of an Honours degree requires 360 credit points with a minimum of 120 at level 6 including the Project (LMS0076).

Honours classification

The University has approved structure and assessment regulations common to all programmes. Full details are provided in [UPR AS14](#), Section D.

Table 1b Final and interim awards available

The programme provides the following final and interim awards:

Final Award	Award Title	Minimum requirements	Available at end of Level	Programme Learning Outcomes developed (see above)				
BSc (Hons)	BSc (Hons) Pharmaceutical Science	360 credit points including 240 at level 6/5 of which 120 must be at level 6	6	A1	A2 A6 B2 C1 D1 D5	A3 A7 B3 C2 D2 D6	A4 A5 B1 B5 C4 D4	
BSc (Hons)	BSc (Hons) in Pharmaceutical Science with year abroad	360 credit points including 240 at level 6/5 of which 120 must be at level 6	6	A1	A2 A6 B2 C1 D1 D5	A3 A7 B3 C2 D2 D6	A4 A5 B1 B5 C4 D4	
BSc (Hons)	BSc (Hons) in Pharmaceutical Science (Sandwich)	360 credit points including 240 at level 6/5 of which 120 must be at level 6	6	A1	A2 A6 B2 C1 D1 D5	A3 A7 B3 C2 D2 D6	A4 A5 B1 B5 C4 D4	

Interim Award	Award Title	Minimum requirements	Available at end of Level	Programme Learning Outcomes developed (see above)				
University Certificate		45 credit points at level 4	4	See UPR AS11, section 13: http://sitem.herts.ac.uk/secreg/upr/AS11.htm				
Certificate of Higher Education		120 credit points at level 4	4, 5	See UPR AS11, section 13: http://sitem.herts.ac.uk/secreg/upr/AS11.htm				
Diploma of Higher Education		240 credit points including at least 120 at level 5	5, 6	See UPR AS11, section 13: http://sitem.herts.ac.uk/secreg/upr/AS11.htm				
BSc	BSc Pharmaceutical Science	300 credit points including 180 at level 6/5 of which 60 must be at level 6	6	A1, A2, A3, A4, A5, A6, A7, B1, B2, B3, B5, C1, C2, C3, C4, D1, D2, D3, D4, D5				

Programme-specific assessment regulations

The programme complies with the University's academic regulations (in particular, [UPR AS11](#), [UPR AS12/UPR AS13](#) (delete as applicable) and [UPR AS14](#)) with the exception of those listed below, which have been approved by the University:

Further programme-specific regulations (requiring School-level approval) are given below:

- Progression from level 4 to level 5 requires a minimum of 120 credits at level 4.

- Progression from level 5 to level 6 requires 240 credits with a minimum of 120 credits from level 5 and 120 credits from level 4.
- For a student to be eligible to proceed to a Sandwich Placement or Year Abroad, they must, by the time of the Semester B Programme Board of Examiners, have achieved at least 240 credits overall including 120 at Level 5.
- Students who have not achieved the minimum progression requirements at the end of Level 5 may be prevented from undertaking a sandwich placement and year abroad. Additionally, students on placement, but who have Level 5 modules to repeat, will not normally be allowed to re-enrol on these modules until they return from placement. This is to avoid a conflict between UH attendance requirements and the student's commitment to their placement provider. Students who do not take the sandwich option, progressing directly to Level 6, will continue on the full-time mode.
- A pass grade for the Sandwich Year Placement module is mandatory for the receipt of the named Sandwich degree award.
- For the Year Abroad, where study will be undertaken in a foreign language, students must meet the partner University language requirements.
- A pass grade for the Year Abroad module is mandatory for that named award.

E. Management of Programme & Support for student learning.

Management

The programme is managed and administered through:

- A Year/Programme Leader to help students understand the course/programme structure
- Student representatives on programme committees
- Module Leaders
- A designated administrative team to deal with day-to-day administration associated with the modules within the programme.
- Dean of School of Life and Medical Sciences
- Associate Deans of School (AQA)
- Head of Pharmacy
- A Programme Leader who is responsible for the day to day management of the programme
- An Admissions Tutor with specific responsibility for open days and selection
- Module leaders who are responsible for individual modules
- A Placement Tutor to assist with the procurement of placements
- A programme committee, which meets twice a year and is chaired by the Programme Leader. Its membership includes student representatives, Module Leaders, placement leader, Administration support

Support

Students are supported by:

- An induction week at the beginning of each new academic session
- Overseas Orientation
- Personal Tutors to provide academic and pastoral support
- A substantial Student Centre that provides advice on issues such as finance, University regulations, legal matters, accommodation, international student support, etc
- Office of Dean of Students, Student Wellbeing (incorporating Counselling, Mental Health and Disability Support), Chaplaincy, and Day Nursery
- StudyNet, a versatile on-line inter-active intranet and learning environment
- Guided student-centred learning on StudyNet module sites
- Access to extensive digital and print collections of information resources
- Attractive modern study environments in 3 Learning Resources Centres
- Medical Centre
- University Disability Advisors
- Careers and Employment
- Hertfordshire Student's Union
- Dedicated programme site
- A Programme Leader to help students understand the course structure
- Personal academic tutors to provide academic and pastoral support
- A project tutor at level 6
- A placement supervisor to support industrial training applications and support students during their placement year
- A University supervisor during the placement year
- An industrial supervisor during the placement year
- Student representatives on programme committees
- School Academic Support Unit
- An induction week at the beginning of each academic session
- Overseas orientation
- Guided student-centred learning through the use of StudyNet, a versatile on-line inter-active intranet and learning environment
- Access to extensive digital and print collections of information resources
- Attractive modern study environments in 2 learning resource centres

- A substantial student centre that provides advice on issues such as finance, University regulations, legal matters, accommodation, international student support, etc
- Office of the Dean of students, incorporating Chaplaincy, Counselling and Nursery
- Medical centre
- A mathematics drop in centre
- A School Disabled Student Coordinator
- The Students' Union
- An equal opportunities officer
- The Students' Union
- Guided student-centred learning on StudyNet module sites
- A careers service for all current students and graduates

F. Other sources of information

In addition to this Programme Specification, the University publishes guidance to registered students on the programme and its constituent modules:

- A dedicated programme site
- A Definitive Module Document (DMD) for each constituent module;
- A Module Guide for each constituent module.
- Information on Programme and Module External Examiners
<http://www.studynet1.herts.ac.uk/ptl/common/studentcentre.nsf/Teaching+Documents/184A221E5EECA6B780257A5C00250BA9?OpenDocument>
- School Practice Complaints Policy
<http://www.studynet1.herts.ac.uk/crb/co/website84.nsf/Teaching+Documents?OpenView&count=9999&restricttcategory=Academic+Quality/School+Policies>
- UH Fitness to Practise policy ([SA15-Student-Fitness-to-Practise.pdf \(herts.ac.uk\)](#))
- School Confidentiality policy
<http://www.studynet2.herts.ac.uk/crb/co/website84.nsf/Search?openagent=null&search=confidentiality>
- School DBS policy
<http://www.studynet2.herts.ac.uk/crb/co/website84.nsf/Search?openagent=null&search=dbs>
- QAA subject benchmark statements for Biomedical science, Bioscience and Chemistry

The [Ask Herts](#) website provides information on a wide range of resources and services available at the University of Hertfordshire including academic support, accommodation, fees, funding, visas, wellbeing services and student societies.

As a condition of registration, all students of the University of Hertfordshire are required to comply with the University's rules, regulations and procedures. These are published in a series of documents called 'University Policies and Regulations' (UPRs). The University requires that all students consult these documents which are available on-line, on the UPR web site, at: <http://www.herts.ac.uk/secreg/upr/>. In particular, [UPR SA07](#) 'Regulations and Advice for Students' Particular Attention - Index' provides information on the UPRs that contain the academic regulations of particular relevance for undergraduate and taught postgraduate students.

In accordance with section 4(5) of the Higher Education and Research Act 2017 (HERA), the UK Office for Students (OfS) has registered the University of Hertfordshire in the register of English higher education

providers. The Register can be viewed at: <https://www.officeforstudents.org.uk/advice-and-guidance/the-register/the-ofs-register/>.

G. Entry requirements

The normal entry requirements for the programme are:

112 UCAS points with a minimum of a grade C in GCE A Level Chemistry plus at least one other Science subject at GCE A level or equivalent. Plus GCSE English language, mathematics and double science (or Biology and Chemistry) at grade 4 (C) or above.

Equivalent qualifications will be considered on an individual basis, such as the Access to HE Certificate or approved equivalent.

All students from non-majority English speaking countries require proof of English language proficiency. The following qualifications and grades will be considered: GCSE English language grade 9-4 (A-C), or IELTS 6.5 (with no less than 6.0 in any band).

Some placement providers may require satisfactory enhanced clearance checks by the Disclosure and Barring Service (DBS) prior to students being accepted onto a placement.

For current entry tariff point requirements, please refer to the relevant page for the Course on the University website or on the online prospectus.

The programme is subject to the University's Principles, Policies and Regulations for the Admission of Students to Undergraduate and Taught Postgraduate Programmes (in [UPR SA03](#)), along with associated procedures. These will take account of University policy and guidelines for assessing accredited prior certificated learning (APCL) and accredited prior experiential learning (APEL).

If you would like this information in an alternative format please contact:
ICAQ@herts.ac.uk

If you wish to receive a copy of the latest External Examiner's Report for the programme, please email a request to aqo@herts.ac.uk.

BSc Pharmaceutical Sciences

Table 2: Development of Intended Programme Learning Outcomes in the Constituent Modules

This map identifies where the programme learning outcomes are delivered and assessed in the constituent modules. It provides (i) an aid to academic staff in understanding how individual modules contribute to the programme aims (ii) a checklist for quality control purposes and (iii) a means to help students monitor their own learning, personal and professional development as the programme progresses.

			Programme Learning Outcomes (as identified in section 1 and the following page)																										
			Knowledge & Understanding								Intellectual Skills					Practical Skills					Transferable Skills								
		Module Title	Module Code	A1	A2	A3	A4	A5	A6	A7	A8	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	D1	D2	D3	D4	D5	D6	D7	
Level 4		Foundations of Pharmaceutical Chemistry	4LMS0111	X	X		X					X				X	X		X	X	X	X	X	X		X	X		
		Fundamentals of Analytical Chemistry	4LMS0110	X			X		X			X					X	X	X	X	X		X		X	X			
		Human Physiology & Pharmacology	4LMS0002	X	X											X	X		X	X	X	X	X	X	X	X	X		
		Biology & Biochemistry	4LMS0112	X	X	X						X					X			X	X						X		
Level 5		Dosage Form, Design & Manufacture	5LMS0024	X		X		X	X	X		X		X		X	X	X	X	X	X	X	X	X	X	X	X		
		Advanced Analytical Techniques & Quality	5LMS0058	X	X		X			X		X		X		X	X	X	X	X	X	X	X	X	X	X	X		
		Methods in Drug Design	5LMS0059	X	X		X	X	X			X	X	X		X	X		X	X	X	X	X	X	X	X	X	X	
		Pharmacology	5LMS0026	X	X			X				X		X		X	X		X	X	X	X	X		X		X		
	Placement Year	6LMS0023	X					X		X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
	Year Abroad	6LMS0022	X					X		X		X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X
Level 6		Project	6LMS0076	X	X							X	X	X	X	X	X		X	X	X	X	X	X	X	X	X		
		Pharmaceutical Industry Practice	6LMS0077	X						X		X		X	X				X	X	X	X	X	X	X	X	X		
		Applied & Integrated Pharmacological Science	6LMS0027		X			X		X		X		X	X	X						X		X	X	X			
		Topics in Medicine Design	6LMS0078		X		X			X		X		X		X						X	X	X	X	X			
		Advances in Pharmaceutical Formulation Development & Delivery	6LMS0079		X			X		X		X		X		X	X		X	X	X	X	X	X	X	X			

KEY TO PROGRAMME LEARNING OUTCOMES

Knowledge and Understanding

- A1. understand and apply the fundamental chemical and biological principles on which pharmaceutical sciences is based;
- A2. understand the molecular basis of the discovery, design, synthesis and mode of action of drugs;
- A3. apply an understanding of microbiology and immunology to the preparation and supply of sterile medicines and the control of sterility in pharmaceutical manufacture and storage;
- A4. apply the principles of medicinal, analytical and process chemistry to drug design, synthesis and manufacture;
- A5. understand the principles of pharmacokinetics, product formulation, and delivery route underlying the optimization of drug administration;
- A6. understand the main analytical techniques and instrumentation used in pharmaceutical dosage form development and testing;
- A7. be familiar with and able to apply the regulations governing pharmaceutical product development;
- A8. gain experience from a work placement (i.e. sandwich students) and/or period overseas.

Intellectual Skills

- B1. understand the ethical implications of their work;
- B2. execute and report a research project in order to develop the necessary skills for independent research;
- B3. apply theoretical concepts to the study of pharmaceutical science and evaluate the relationship between theory and practice;
- B4. display an awareness of the existence and nature of value judgments;
- B5. demonstrate at a level appropriate to the award, a critical approach in enquiry and a readiness to test hypothesis, interpret scientific data and evaluate published literature.

Practical Skills

- C1. acquire appropriate laboratory skills, including safe working practices where relevant;
- C2. acquire appropriate analytical instrumentation skills;
- C3. acquire appropriate documentation and record keeping skills;
- C4. design experiments and analyse and interpret data.
- C5 – integrate theoretical concepts, professional framework and practical skills in a professional working environment

Transferable Skills

- D1. communicate effectively using a variety of formats;
- D2. use effectively a range of information sources;
- D3. organise and present intellectual argument commensurate with the level of award;
- D4. work effectively both alone, and as part of a team;
- D5. be numerate at a level appropriate to the course;
- D6. develop the skills required for continued self-managed professional development;
- D7. develop the skills necessary to gain a knowledge and understanding of pharmaceutical science topics in a different cultural environment.

Table 3: Development of Graduate Attributes in the Constituent Modules

This map identifies where the Graduate Attributes are delivered in the constituent modules. It provides (i) an aid to academic staff in understanding how individual modules contribute to the development of the Graduate Attributes (ii) a checklist for quality control purposes and (iii) a means to help students monitor their own personal and professional development as the programme progresses. [Note that there is no requirement for the Graduate Attributes to be assessed through these modules]

D = Delivered

	Module Title	Module Code	Professionally Focused	Globally Minded	Sustainability Driven	Digitally capable & confident	Inclusive and collaborative	Evidenced based and Ethical
Level 4	Foundations of Pharmaceutical Chemistry	4LMS0111	D	D	D	D	D	D
	Fundamentals of Analytical Chemistry	4LMS0110	D	D	D	D	D	D
	Human Physiology & Pharmacology	4LMS0002	D	D	D	D	D	D
	Biology & Biochemistry	4LMS0112	D	D	D	D	D	D
Level 5	Dosage Form, Design & Manufacture	5LMS0024	D	D	D	D	D	D
	Advanced Analytical Techniques & Quality	5LMS0058	D	D	D	D	D	D
	Methods in Drug Design	5LMS0059	D	D	D	D	D	D
	Pharmacology	5LMS0026	D	D	D	D	D	D
	Placement Year	6LMS0023	D	D	D	D	D	D
	Year Abroad	6LMS0022	D	D	D	D	D	D
Level 6	Project	6LMS0076	D	D	D	D	D	D
	Pharmaceutical Industry Practice	6LMS0077	D	D	D	D	D	D
	Applied & Integrated Pharmacological Science	6LMS0027	D	D	D	D	D	D
	Topics in Medicine Design	6LMS0078	D	D	D	D	D	D
	Advances in Pharmaceutical Formulation Development & Delivery	6LMS0079	D	D	D	D	D	D

Section 2

Programme management

Relevant QAA subject benchmarking statements	None
Type of programme	Undergraduate
Date of validation/last periodic review	September 14
Date of production/ last revision of PS	October 2022
Relevant to level/cohort	All students entering September 2023
Administrative School	School of Life and Medical Sciences
Language of Delivery	English

Table 4 Course structure

Course details			
Course Code	Course Description	HECOS	UCAS
LMPSC	BSc (Hons) Pharmaceutical Science	100251	B202