

PROGRAMME SPECIFICATION

Bachelor of Science with Honours in Pharmaceutical and Cosmetic Science

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| Awarding institution | Liverpool John Moores University |
| Teaching institution | LJMU |
| JACS Code | F151 |
| Programme Duration | Full-Time: 3 Years, Sandwich Thick: 4 Years |
| Language of Programme | All LJMU programmes are delivered and assessed in English |
| Subject benchmark statement | Chemistry (2019), Biosciences (2019) |
| Programme accredited by | |
| Description of accreditation | |
| Validated target and alternative exit awards | Bachelor of Science with Honours in Pharmaceutical and Cosmetic Science Bachelor of Science with Honours (SW) in Pharmaceutical and Cosmetic Science Diploma of Higher Education in Pharmaceutical and Cosmetic Science Diploma in Higher Education (SW) in Pharmaceutical and Cosmetic Science Certificate of Higher Education in Pharmaceutical and Cosmetic Science |
| Programme Leader | Matthew Roberts |

Educational aims of the programme

To provide, for all students, a defined, integrated academic programme of study with clear learning outcomes.

To provide students with a comprehensive understanding and skills base to equip them for a career in pharmaceutical and cosmetic science, allied and other industries, and associated professions.

To develop critical, analytical problem-based learning skills and transferable skills to prepare the student for graduate employment.

To permit students to acquire a high level of vocationally-orientated practical, analytical and research skills.

To encourage students to make an academic and practical contribution to the discipline of pharmaceutical and cosmetic science.

To develop those learning, information technology, communication and reflective skills necessary to enable students to undertake independent study, and to participate in lifelong learning.

To develop new areas of teaching in response to the advance of scholarship and the needs of the community.

To encourage students to engage with the development of employability skills by completing a self-awareness statement.

In addition to the aims for the main target award, the sandwich programme aim is to provide students with an extended period of work experience at an approved partner that will complement their programme of study at LJMU. This will give the students the opportunity to develop professional skills relevant to their programme of study, as well as attitude and behaviours necessary for employment in a diverse and changing environment.

Alternative Exit/ Interim Award Learning Outcomes - Certificate of Higher Education

A student who is eligible for this award will be able to:

Apply a broad knowledge base, incorporating theoretical concepts and employing a wide range of specialised skills to real and theoretical pharmaceutical and cosmetic science applications.

Evaluate information using it to plan and develop investigative strategies and to determine solutions to a wide range of scientific problems.

Operate in a range of science contexts, and take responsibility for their contributions and outputs

Alternative Exit/ Interim Award Learning Outcomes - Diploma in Higher Education (SW)

A student who is eligible for this award will be able to:

A student who successfully completes a placement year will be eligible for the Sandwich award and will, in addition to the below, be able to demonstrate the professional and personal skills necessary for effective employment within a professional environment.

Alternative Exit/ Interim Award Learning Outcomes - Diploma of Higher Education

A student who is eligible for this award will be able to:

Generate ideas through the analysis of concepts at an abstract level, with a command of highly specialised skills and the formulation of responses to concrete and abstract problems.

Accept responsibility for group and personal work.

Analyse and evaluate information, demonstrating significant judgement across a broad range of pharmaceutical and cosmetic science related areas.

Target award Learning Outcomes - Bachelor of Science with Honours

A student successfully completing the programme of study will have acquired the following subject knowledge and understanding as well as skills and other attributes.

A student who is eligible for this award will be able to:

1. Demonstrate understanding of fundamental concepts, principles and theories relevant to pharmaceutical and cosmetic science encompassing physicochemical, microbiological, physiological and pharmacological processes.
2. Demonstrate competence and progressive development in the core experimental skills applicable to the pharmaceutical and cosmetic science sectors.
3. Use and interpret a variety of sources of information: textual, numerical, verbal and graphical within the laboratory setting.
4. Collect, analyse, and interpret experimental data.
5. Distinguish and discuss areas of research and development in the field of pharmaceutical and cosmetic science.
6. Analyse, synthesise and summarise information critically from a variety of sources including published research or reports.
7. Communicate scientific information effectively in written, verbal, and visual forms.
8. Apply the skills needed for academic study and enquiry to an advanced level.
9. Demonstrate initiative and originality in the use of specialist knowledge and methodologies applied to the study of pharmaceutical and cosmetic science.
10. Evaluate, summarise, and report research laboratory and literature data and relate them to underlying theory.
11. Design, plan, conduct and report on laboratory-based investigations.
12. Comply with health and safety policies, Good Laboratory Practice (GLP), risk and Control of Substances Hazardous to Health (COSHH) assessments and recognise the importance of quality control and quality assurances.
13. Communicate effectively in multi-skilled teams, establishing professional and ethical relationships.
14. Appreciate the requirement for responsible and ethical behaviour in the pharmaceutical and cosmetic industries.
15. Self-evaluate academic and professional performance.
16. Identify and work towards targets for personal, academic, professional and career development.
17. Utilise problem-solving skills, qualitative and quantitative, in a variety of theoretical and practical situations.
18. Demonstrate the skills necessary for independent life-long learning (for example working independently, working as part of a team, time management, problem solving, organisational and enterprise skills).

Alternative target awards

A student who is eligible for the following awards will be able to:

Bachelor of Science with Honours (SW) in Pharmaceutical and Cosmetic Science -

A student who successfully completes a placement year will be eligible for the Sandwich award and will, in addition to the learning outcomes for the main target award, be able to demonstrate the professional and personal skills necessary for effective employment within a professional environment.

Teaching, Learning and Assessment

The methods used to enable outcomes to be achieved and demonstrated are as follows:

The acquisition of knowledge is fostered through a range of taught sessions including lectures, workshops and practical laboratory classes. Understanding of taught material is facilitated through tutorials, problem-solving exercises, group work and independent study. Knowledge and understanding are assessed in a variety of ways. These include: examinations (MCQ, short answers, data analysis and essay-style questions), laboratory reports, practical assessments, essays, literature reviews, group and individual presentations.

Cognitive skills are developed throughout the programme. For example, the ability to synthesise and analyse information critically is developed in laboratory sessions from Level 4 to 6, including in the Research Methods and Project module. Applying subject knowledge and understanding to address unfamiliar problems is developed in workshops in many modules, especially in modules that utilise interpretative examination questions. Laboratory reports, scientific communication, essays and examinations allow students to demonstrate the full range of these skills and attributes.

Practical and professional skills are taught during laboratory classes (a component of most modules). Core principles and minimum standards required for effective laboratory work are introduced at Level 4, developed at Level 5, and at Level 6 the students apply these skills during their independent Research Project. If a student undertakes a sandwich year placement then these practical skills will be developed in an applied work setting. These practical and professional skills are assessed through data handling exercises and laboratory reports, including the execution of the Research Project.

Transferable and key skills are inherent within the programme and specifically taught in core modules at all Levels (e.g. Organic Chemistry and Analytical Chemistry at Level 4; Principles of Pharmacology and Principles of Cosmetic Products at Level 5; Research methods and Project at Level 6). These transferable and key skills are assessed through assessment activities at all levels, in all modules and specifically in the modules mentioned above.

Programme structure - programme rules and modules

Study Abroad

Students will be offered the opportunity of study abroad at Level 5. Students can choose either Option A or Option B unless they undertake the Sandwich Year, in which case Option B is not available:

Option A: replacement of 60 credits of Level 5 with appropriate study abroad.

The programme will offer the opportunity of 60 credits of study at Level 5. Students will be enrolled on a 360 credit honours with study abroad programme. A 60 credit Level 5 study abroad module [5009PHASCI] will normally replace the semester 2 modules on the standard programme. This study abroad should cover the same learning outcomes as the modules being replaced. The modules to be studied in the host institution must be agreed in advance. The Level 5 mean for the final award mark will be calculated based upon the 120 credits at Level 5.

Option B: additional study year abroad following Level 5.

The programme will offer the opportunity of an additional study year abroad following Level 5. Students will be enrolled on a 480 credit honours with study abroad programme. Of those 480 credits, 120 will be taken via a Level 5 study abroad module [5008PHASCI], the modules to be studied in the host institution must be agreed in advance. The Level 5 mean for the final award mark will be calculated based upon the 240 credits at Level 5.

Sandwich Year [5007PHASCI]

The aim is to provide students with an extended period of work experience at an approved partner that will complement their programme of study at LJMU. This will give the students the opportunity to develop professional skills relevant to their programme of study, as well as attitude and behaviours necessary for employment in a diverse and changing environment.

The placement year will follow Level 5 and students will be enrolled on a 480 credit honours sandwich

programme and take the module 5007PHASCI (Sandwich Year - Pharmaceutical Science). The Level 5 mean for the final award mark will be calculated based upon the 240 credits at Level 5.

| Level 6 | Potential Awards on completion | Bachelor of Science with Honours |
|---|--------------------------------|--|
| Core | Option | Award Requirements |
| 6000PHASCI RESEARCH METHODS AND PROJECT (40 credits) 6001PHASCI INDUSTRIAL DRUG DEVELOPMENT (20 credits) 6002PHASCI ADVANCED PHARMACEUTICAL ANALYSIS (20 credits) 6003PHASCI ADVANCED DELIVERY SYSTEMS (20 credits) 6004PHASCI CLINICAL DRUG DEVELOPMENT (20 credits) | | 120 core credits at level 6 0 option credits at level 6 |

| Level 5 | Potential Awards on completion | |
|--|--------------------------------|--|
| Core | Option | Award Requirements |
| 5001PHASCI PHARMACEUTICAL FORMULATION (20 credits) 5002PHASCI SYNTHETIC AND NATURAL DRUGS (20 credits) 5003PHASCI PRINCIPLES OF PHARMACOLOGY (20 credits) 5004PHASCI STERILE PHARMACEUTICAL PRODUCTS (20 credits) 5005PHASCI PHARMACEUTICAL ANALYSIS (20 credits) 5010PHASCI PRINCIPLES OF COSMETIC PRODUCTS (20 credits) | | 120 core credits at level 5 0 option credits at level 5 |

| Level 4 | Potential Awards on completion | |
|--|--------------------------------|--|
| Core | Option | Award Requirements |
| 4001PHASCI PHYSICAL PHARMACEUTICS (20 credits) 4002PHASCI ORGANIC CHEMISTRY (20 credits) 4003PHASCI PRINCIPLES OF HUMAN BIOLOGY (20 credits) 4004PHASCI FORMULATION SCIENCE (20 credits) 4005PHASCI ANALYTICAL CHEMISTRY (20 credits) 4006PHASCI BIOLOGICALLY ACTIVE MOLECULES (20 credits) | | 120 core credits at level 4 0 option credits at level 4 |

Information about assessment regulations

All programmes leading to LJMU awards operate within the University's Academic Framework.
<https://www.ljmu.ac.uk/about-us/public-information/academic-quality-and-regulations/academic-framework>

Opportunities for work-related learning (location and nature of activities)

The Pharmaceutical and Cosmetic Science programme offers the option of a sandwich route, which involves 1 year of work experience in a specialist field as well as the possibility of Erasmus exchange. The sandwich placement occurs at the end of Level 5 and the training allows students to develop their professional and technical skills. Work related learning is delivered throughout the programme and further opportunities are

available through employer guest lectures/workshops.

The Faculty Placement Learning Support Unit (PLSU) provides support for students seeking work-based placements including Sandwich placements.

Criteria for admission

A/AS Level

Applicants should have (or expect to obtain) at least 2 'A2' levels or equivalent, including Chemistry at grade C or above and preferably one further science subject with a minimum of 104 points.

BTEC National Diploma

BTEC applicants should hold or be studying an appropriate diploma and have (or expect to obtain) a pass with at least 3 merit grades at level 3 in appropriate units.

AVCE

AVCE applicants should have (or expect to obtain) 104 points in an appropriate discipline (normally science).

Irish Leaving Certificate

Applicants must have passed (or expect to pass) their Irish Higher exams with at least grade BBC in 3 subjects, 2 of which must be in sciences.

Scottish Higher

Applicants must have passed (or expect to pass) their Scottish Higher exams with at least grade BBC in 3 subjects, 2 of which must be in sciences.

International Baccalaureate

Applicants must have (or expect to obtain) the full award including grade 5 in an appropriate science.

Access

Access applicants should have (or expect to obtain) a pass in an appropriate QAA-approved Access course.

Higher national diploma

Applicants with either a HNC or HND will be considered on an individual basis and may be eligible for some recognition of prior learning.

Other

In common with standard University policy, applicants should have GCSE passes in Mathematics and English with a minimum grade C, or equivalent.

Mature entry

Approved science access or foundation course. Students aged 21 or over who do not meet the requirements listed may be admitted provided that there is sufficient evidence (interview) that the applicant has the necessary motivation, knowledge and study skills to complete the course successfully.

Overseas qualifications

A wide variety of qualifications may be acceptable provided that they equate to UK requirements. They should also provide evidence of English language ability equivalent to 6.0 IELTS.

External Quality Benchmarks

All programmes leading to LJMU awards have been designed and approved in accordance with the UK Quality Code for Higher Education, including the Framework for Higher Education Qualifications in the UK (FHEQ) and subject benchmark statements where applicable.

The University is subject to periodic review of its quality and standards by the Quality Assurance Agency (QAA). Published review reports are available on the QAA website at www.qaa.ac.uk

Programmes which are professionally accredited are reviewed by professional, statutory and regulatory bodies (PSRBs) and such programmes must meet the competencies/standards of those PSRBs.

Support for students and their learning

The University aims to provide students with access to appropriate and timely information, support and guidance to ensure that they are able to benefit fully from their time at LJMU. All students are assigned a Personal Tutor to provide academic support and when necessary signpost students to the appropriate University support services.

Students are able to access a range of professional services including:

- Advice on practical aspects of study and how to use these opportunities to support and enhance their personal and academic development. This includes support for placements and careers guidance.
- Student Advice and Wellbeing Services provide students with advice, support and information, particularly in the areas of: student funding and financial matters, disability, advice and support to international

students, study support, accommodation, health, wellbeing and counselling.

- Students studying for an LJMU award at a partner organisation will have access to local support services

Methods for evaluating and improving the quality and standards of teaching and learning

Student Feedback and Evaluation

The University uses the results of student feedback from internal and external student surveys (such as module evaluations, the NSS and PTES), module evaluation questionnaires and meetings with student representatives to improve the quality of programmes.

Staff development

The quality of teaching is assured through staff review and staff development in learning, teaching and assessment.

Internal Review

All programmes are reviewed annually and periodically, informed by a range of data and feedback, to ensure quality and standards of programmes and to make improvements to programmes.

External Examining

External examiners are appointed to programmes to assess whether:

- the University is maintaining the threshold academic standards set for awards in accordance with the FHEQ and applicable subject benchmark statements
- the assessment process measures student achievement rigorously and fairly against the intended outcomes of the programme(s) and is conducted in line with University policies and regulations
- the academic standards are comparable with those in other UK higher education institutions of which external examiners have experience
- the achievement of students are comparable with those in other UK higher education institutions of which the external examiners have experience

and to provide informative comment and recommendations on:

- good practice and innovation relating to learning, teaching and assessment observed by external examiners
- opportunities to enhance the quality of the learning opportunities provided to students

Please note:

This specification provides a concise summary of the main features of the programme and the 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 learning outcomes, content, teaching, learning and assessment methods of each module can be found in module and programme guides.