

## Overview

<b>Programme Code</b>	36410
<b>Programme Title</b>	Pharmaceutical and Cosmetic Science
<b>Awarding Institution</b>	Liverpool John Moores University
<b>Programme Type</b>	Degree
<b>Language of Programme</b>	All LJMU programmes are delivered and assessed in English
<b>Programme Leader</b>	Raida Al Kassas
<b>Link Tutor(s)</b>	

## Awards

Award Type	Award Description	Award Learning Outcomes
Target Award	Bachelor of Science with Honours - BSH	See Learning Outcomes Below
Recruitable Target	Bachelor of Science with Honours (SW) - SBSH	See Learning Outcomes Below
Alternative Exit	Diploma of Higher Education - DHE	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.
Alternative Exit	Bachelor of Science - BS	Demonstrate a broad and comparative knowledge of the general scope of the subject, its different areas and applications, and its interactions with related subjects. A detailed knowledge of a defined subject or a more limited coverage of a specialist area balanced by a wider range of study. In each case, specialised study will be informed by current developments in the subject. Demonstrate a critical understanding of the essential theories, principles and concepts of the subject(s) and of the ways in which these are developed through the main methods of enquiry in the subject.
Alternative Exit	Certificate of Higher Education - CHE	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	Bachelor of Science (SW) - SBS	Demonstrate a broad and comparative knowledge of the general scope of the subject, its different areas and applications, and its interactions with related subjects. A detailed knowledge of a defined subject or a more limited coverage of a specialist area balanced by a wider range of study. In each case, specialised study will be informed by current developments in the subject. Demonstrate a critical understanding of the essential theories, principles and concepts of the subject(s) and of the ways in which these are developed through the main methods of enquiry in the subject.
Alternative Exit	Diploma in Higher Education (SW) - SDHE	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.

### Alternate Award Names

## External Benchmarks

<b>Subject Benchmark Statement</b>	UG-Biosciences (2019), UG-Chemistry (2022)
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## Programme Offering(s)

<b>Mode of Study, Mode of Delivery</b>	<b>Intake Month</b>	<b>Teaching Institution</b>	<b>Programme Length</b>
Sandwich Year Out, Face to Face	September	LJMU Taught	4 Years
Full-Time, Face to Face	September	LJMU Taught	3 Years

## Aims and Outcomes

### 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.

### Learning Outcomes

<b>Code</b>	<b>Description</b>
PLO1	Demonstrate understanding of fundamental concepts, principles and theories relevant to pharmaceutical and cosmetic science encompassing physicochemical, microbiological, physiological and pharmacological processes.
PLO2	Evaluate, summarise, and report research laboratory and literature data and relate them to underlying theory.
PLO3	Design, plan, conduct and report on laboratory-based investigations.
PLO4	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.

<b>Code</b>	<b>Description</b>
PLO5	Communicate effectively in multi-skilled teams, establishing professional and ethical relationships.
PLO6	Appreciate the requirement for responsible and ethical behaviour in the pharmaceutical and cosmetic industries.
PLO7	Self -evaluate academic and professional performance.
PLO8	Identify and work towards targets for personal, academic, professional and career development.
PLO9	Utilise problem-solving skills, qualitative and quantitative, in a variety of theoretical and practical situations.
PLO10	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).
PLO11	Demonstrate competence and progressive development in the core experimental skills applicable to the pharmaceutical and cosmetic science sectors.
PLO12	Use and interpret a variety of sources of information: textual, numerical, verbal and graphical within the laboratory setting.
PLO13	Collect, analyse, and interpret experimental data.
PLO14	Distinguish and discuss areas of research and development in the field of pharmaceutical and cosmetic science.
PLO15	Analyse, synthesise and summarise information critically from a variety of sources including published research or reports.
PLO16	Communicate scientific information effectively in written, verbal, and visual forms.
PLO17	Apply the skills needed for academic study and enquiry to an advanced level.
PLO18	Demonstrate initiative and originality in the use of specialist knowledge and methodologies applied to the study of pharmaceutical and cosmetic science.

## Programme Structure

### Programme Structure Description

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.

<b>Programme Structure - 360 credit points</b>	
<b>Level 4 - 120 credit points</b>	
<b>Level 4 Core - 120 credit points</b>	<b>CORE</b>
[MODULE] 4001PHASCI Physical Properties Approved 2022.01 - 20 credit points	
[MODULE] 4002PHASCI Organic Chemistry Approved 2022.01 - 20 credit points	
[MODULE] 4003PHASCI Principles of Human Biology and Disease Approved 2022.01 - 20 credit points	
[MODULE] 4004PHASCI Formulation Science Approved 2022.01 - 20 credit points	
[MODULE] 4005PHASCI Analytical Chemistry Approved 2022.01 - 20 credit points	
[MODULE] 4006PHASCI Biologically Active Molecules Approved 2022.01 - 20 credit points	
<b>Level 5 - 120 credit points</b>	
<b>Level 5 Core - 120 credit points</b>	<b>CORE</b>
[MODULE] 5001PHASCI Pharmaceutical Formulation Approved 2022.01 - 20 credit points	
[MODULE] 5002PHASCI Synthetic and Natural Drugs Approved 2022.01 - 20 credit points	
[MODULE] 5003PHASCI Principles of Pharmacology Approved 2022.01 - 20 credit points	
[MODULE] 5004PHASCI Sterile Pharmaceutical Products Approved 2022.01 - 20 credit points	
[MODULE] 5005PHASCI Pharmaceutical Analysis Approved 2022.02 - 20 credit points	
[MODULE] 5010PHASCI Principles of Cosmetic Products Approved 2022.01 - 20 credit points	
<b>Optional placement - 120 credit points</b>	<b>OPTIONAL</b>
<b>Placement Year - 120 credit points</b>	<b>OPTIONAL</b>
[MODULE] 5007PHASCI Sandwich Year - Pharmaceutical Science Approved 2022.01 - 120 credit points	
<b>OR Study Abroad - 120 credit points</b>	<b>OPTIONAL</b>
[MODULE] 5008PHASCI Study Year Abroad - Pharmaceutical Science Approved 2022.01 - 120 credit points	
<b>Optional Study Semester - 60 credit points</b>	<b>OPTIONAL</b>

[MODULE] 5009PHASCI Study Semester Abroad - Pharmaceutical Science Approved 2022.01 - 60 credit points	
<b>Level 6 - 120 credit points</b>	
<b>Level 6 Core - 120 credit points</b>	<b>CORE</b>
[MODULE] 6000PHASCI Research Methods and Project Approved 2022.01 - 40 credit points	
[MODULE] 6001PHASCI Industrial Drug Development Approved 2022.02 - 20 credit points	
[MODULE] 6002PHASCI Advanced Pharmaceutical Analysis Approved 2022.01 - 20 credit points	
[MODULE] 6003PHASCI Advanced Delivery Systems Approved 2022.01 - 20 credit points	
[MODULE] 6004PHASCI SAFETY ASSESSMENT OF PHARMACEUTICALS AND COSMETICS Archived 2023.01 - 20 credit points	

Module specifications may be accessed at <https://proformas.ljmu.ac.uk/Default.aspx>

## Teaching, Learning and Assessment

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.

## Opportunities for work related learning

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.

## Entry Requirements

Type	Description
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NVQ	Applicants with either a HNC or HND will be considered on an individual basis and may be eligible for some recognition of prior learning.
Alternative qualifications considered	In common with standard University policy, applicants should have GCSE passes in Mathematics and English with a minimum grade C, or equivalent.
Other international requirements	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.
BTECs	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.
A levels	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.
International Baccalaureate	Applicants must have (or expect to obtain) the full award including grade 5 in an appropriate science.

### **Extra Entry Requirements**