

Overview

Programme Code	35930
Programme Title	Chemistry
Awarding Institution	Liverpool John Moores University
Programme Type	Degree

Awards

Award Type	Award Description	Award Learning Outcomes
Target Award	Bachelor of Science with Honours - BSH	N/A
Alternative Exit	Certificate of Higher Education - CHE	<p>Reflect on the scientific skills required for the course and their future careers. Reflect on the scientific skills required for the course and their future careers.</p> <p>Develop a basic, practical and relevant mathematical and chemical foundation for the quantitative aspects of all Level 4 modules. Develop a basic, practical and relevant mathematical and chemical foundation for the quantitative aspects of all Level 4 modules. Apply the skills needed for academic study and enquiry. Apply the skills needed for academic study and enquiry.</p> <p>Utilise problem-solving skills to chemical science. Utilise problem-solving skills to chemical science.</p> <p>Collect, analyse, and interpret experimental data. Collect, analyse, and interpret experimental data.</p> <p>Evaluate his/her own academic and professional performance. Evaluate his/her own academic and professional performance. Take responsibility for personal and professional learning and development. Take responsibility for personal and professional learning and development.</p> <p>Understand the career opportunities and challenges ahead. Understand the career opportunities and challenges ahead.</p>

Alternative Exit	Diploma of Higher Education - DHE	<p>Reflect on the scientific skills required for the course and their future careers. Possess a detailed knowledge and understanding of the chemical properties and reactions which are relevant to the modern chemical industry. Critically appraise laboratory methods and the design of chemical laboratory experiments, their implementation and interpretation of their results. Utilise problem-solving skills to chemical science. Plan and execute safely laboratory experiments with an awareness of good laboratory practice (GLP) and COSHH assessment. Collect, analyse, and interpret experimental data. Evaluate his/her own academic and professional performance. Take responsibility for personal and professional learning and development. Understand career opportunities and challenges ahead. A student who successfully completes a placement year will be eligible for the Sandwich award and will, in addition to the above, be able to demonstrate the professional and personal skills necessary for effective employment within a professional environment.</p>
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Alternate Award Names	
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External Benchmarks

Subject Benchmark Statement	UG-Chemistry (2019)
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Programme Offering(s)

Mode of Study, Mode of Delivery	Intake Month	Teaching Institution	Programme Length Programme Length Unit
Sandwich Year Out, Face to Face	September	LJMU Taught	4 Years

Aims and Outcomes

Educational Aims of the Programme	To provide, for all students, a defined academic programme with clear learning outcomes. To provide students with a comprehensive understanding and skills of chemistry required to equip them for a career in the chemical, allied and other industries and 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 in chemistry. To encourage students to make an academic and practical contribution to the discipline of chemistry. 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 furnish the students with hands-on operational experience of up-to-date, chemical industry-specific apparatus relevant to synthetic and analytical areas. In addition for the sandwich version of the programme, 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.
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Learning Outcomes

Code	Number	Description
PLO1	1	Evaluate, utilise and present essential facts, concepts, principles and theories of chemistry.
PLO2	2	Demonstrate initiative and originality in the use of chemical knowledge and methodologies applied to the study of chemistry.
PLO3	3	Demonstrate self-direction and initiative in the planning and safe execution of laboratory work, in line with good laboratory practice (GLP) and COSHH assessment.
PLO4	4	Collect, analyse, and interpret experimental data.
PLO5	5	Communicate effectively in multi-skilled teams, establishing professional and ethical relationships.
PLO6	6	Appreciate the requirement for responsible and ethical behaviour in the Chemical and allied industries, with particular reference to the environment.
PLO7	7	Communicate effectively with a wide range of individuals via discussion, written materials, use of images and presentations (oral and poster).
PLO8	8	Self -evaluate academic and professional performance.
PLO9	9	Utilise problem-solving skills, qualitative and quantitative, in a variety of theoretical and practical situations.
PLO10	10	Demonstrate a wide range of study, IT, numerical and computational skills.
PLO11	11	Manage time, prioritise workloads and recognise and manage personal emotions and stress.

PLO12	12	Analyse, critically appraise, report and explain chemical information and data.
PLO13	13	Understand continuing professional development, identifying career opportunities and challenges ahead.
PLO14	14	Distinguish and discuss areas of research and development in the area of chemistry.
PLO15	15	Recognise and apply scientific principles in various fields of chemistry.
PLO16	16	Critically evaluate current research in chemistry.
PLO17	17	Apply the skills needed for academic study and enquiry to an advanced level.
PLO18	18	Adapt and apply knowledge and understanding of chemistry to the solution of qualitative and quantitative problems.
PLO19	19	Evaluate, summarise and report research laboratory and published data and relate them to underlying theory.
PLO20	20	Design and construct laboratory work.

Course Structure

Programme Structure Description	<p>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 are on the sandwich degree when only option A will be 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 abroad at Level 5. Students will be enrolled on a 360 credit honours with study abroad programme. A 60 credit Level 5 study abroad module [5009APCHEM Study Semester Abroad - Chemistry] 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 600 credits, 120 will be taken via a Level 5 study abroad module [5008APCHEM Study Year Abroad - Applied Chemistry]. 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 degree - the placement year [5007APCHEM] will follow Level 5 and students will be enrolled on a 480 credit honours sandwich programme. The Level 5 mean for the final award mark will be calculated based upon the 240 credits at Level 5.</p>
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Programme Structure - 360 credit points	
Level 4 - 120 credit points	
Level 4 Core - 120 credit points	CORE
[MODULE] 4001APCHEM Atomic Structure and Reactivity Approved 2022.01 - 20 credit points	
[MODULE] 4002APCHEM From Atoms to Molecules Approved 2022.01 - 20 credit points	
[MODULE] 4003APCHEM Practical Laboratories 1 Approved 2022.01 - 20 credit points	
[MODULE] 4004APCHEM Properties of Molecules Approved 2022.01 - 20 credit points	
[MODULE] 4005APCHEM Properties of Matter Approved 2022.01 - 20 credit points	
[MODULE] 4006APCHEM Practical Laboratories 2 Approved 2022.01 - 20 credit points	
Level 5 - 120 credit points	
Level 5 Core - 120 credit points	CORE
[MODULE] 5001APCHEM Radiation and Matter Approved 2022.01 - 20 credit points	
[MODULE] 5002APCHEM Understanding Molecules Approved 2022.01 - 20 credit points	
[MODULE] 5003APCHEM Practical Laboratories 3 Approved 2022.01 - 20 credit points	
[MODULE] 5004APCHEM Understanding Materials and Mixtures Approved 2022.01 - 20 credit points	
[MODULE] 5005APCHEM Structure and Analysis Approved 2022.01 - 20 credit points	
[MODULE] 5006APCHEM Practical Laboratories 4 Approved 2022.01 - 20 credit points	
Optional placement - 120 credit points	OPTIONAL
Placement Year - 120 credit points	OPTIONAL
[MODULE] 5007APCHEM Sandwich Year - Applied Chemistry Approved 2022.01 - 120 credit points	
OR Study Abroad - 120 credit points	OPTIONAL

[MODULE] 5008APCHEM Study Year Abroad - Applied Chemistry Approved 2022.01 - 120 credit points	
Optional Study Semester - 60 credit points	OPTIONAL
[MODULE] 5009APCHEM Study Semester Abroad - Chemistry Approved 2022.01 - 60 credit points	
Level 6 - 120 credit points	
Level 6 Core - 120 credit points	CORE
[MODULE] 6000APCHEM Research Project Approved 2022.01 - 40 credit points	
[MODULE] 6002APCHEM Industrial Analysis Approved 2022.01 - 20 credit points	
[MODULE] 6003APCHEM Practical Laboratories 5 Approved 2022.01 - 20 credit points	
[MODULE] 6004APCHEM Modern Synthesis Approved 2022.01 - 20 credit points	
[MODULE] 6005APCHEM Molecular Design Approved 2022.01 - 20 credit points	

Teaching, Learning and Assessment

Teaching, Learning and Assessment	Lectures, practicals, tutor-led tutorials, student and tutor-led seminars, project- and problem-based learning scenarios, and self-directed study. Testing of the knowledge base is through a combination of unseen written examinations and assessed coursework in the form of laboratory experiment write-ups, essays, presentations and coursework reports. Lectures, practicals, seminars, tutorials, and case studies. Written examinations, practical reports, coursework, evidence-based portfolio submissions, oral presentations. Lectures, practicals, seminars, data handling workshops, and problem-based learning. Laboratory reports, case study reports, and evidence-based portfolio submission. Transferable/key skills are embedded in the modules of the programme. Examples include the use of spreadsheets and statistical computer packages to analyse data, the use of presentation packages to produce seminars and posters, group working, and the production of a transferable/key skills portfolio. Oral presentations (individual and group), poster presentations, portfolio, and laboratory reports.
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Opportunities for work related learning

Opportunities for work related learning
All students will have an opportunity to engage with the University's employability programme CareerSmart as an integral part of a core module of study. Work-related learning opportunities are available through the routes of employer seminars and guest lectures / workshops. The School has a good record of providing relevant vocational training for students. Students are supported by the Erasmus and Professional Training Tutors who are responsible for advertising placements and promoting vocational training to students. Those students wishing to undergo a year's experience in industry will be expected to register this with the Professional Placements Tutor (PPT) early in Level 5, and will then be allowed to compete for such positions which become available during that academic year. Conversely, the student may wish to arrange a placement individually, although any such placement must be approved by the PPT. Placements are expected to run for 12 months.

Entry Requirements

Type	Description
Alternative qualifications considered	A minimum of grade C in GCSE English and Maths or equivalent is required.
Other international requirements	Applicants should have acquired passes in appropriate examinations in their country of origin and provide evidence of English language ability equivalent to 6.0 IELTS.
International Baccalaureate	International Baccalaureate: Acceptable on its own and combined with other qualifications
BTECs	Extended diploma (QCF): Acceptable on its own and combined with other qualifications. Extended diploma subjects / grades required: DDM - Only BTECs with a strong Chemistry content will be considered.
A levels	Applicants should have (or expect to obtain) at least 3 A2 Levels or equivalent, one of which should be in chemistry. Our minimum points tariff is 104 points. Our offers may be grade specific e.g. we usually expect at least a grade B in chemistry.

Programme Contacts

Programme Leader

Contact Name

Steven Enoch

Link Tutor

Contact Name