

PROGRAMME SPECIFICATION

Bachelor of Science with Honours in Biomedical Science

Awarding institution	Liverpool John Moores University
Teaching institution	LJMU
UCAS Code	B940
JACS Code	B900
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	QAA Subject Benchmark Statement - Biomedical Science (November 2015)
Programme accredited by	IBMS
Description of accreditation	http://www.ibms.org/go/ibms/policy/statements/ibms-degree-statement
Validated target and alternative exit awards	Bachelor of Science with Honours in Biomedical Science Bachelor of Science with Honours (SW) in Biomedical Science Diploma of Higher Education in Biomedical Science Diploma in Higher Education (SW) in Biomedical Science Certificate of Higher Education in Biomedical Science
Programme Leader	Janice Harland

Educational aims of the programme

All programmes within the School of Pharmacy and Biomolecular Sciences aim to provide graduates with a wide knowledge and understanding of core subject matter, thus Biomedical Science aims to provide graduates with an understanding of laboratory-based investigation of human health and disease.

To provide a programme that is recognised and accredited by the IBMS for the completion of section 3a of the Certificate of Competence Portfolio.

To provide the students with vocationally orientated skills to equip them for a career in biomedical science.

To develop study, information technology (IT) and communication skills to enable students to participate in lifelong learning.

To provide the student with skills in independent research to enable them to undertake relevant postgraduate study.

To develop transferable skills to enable students to enter non-subject specific employment at graduate level.

To encourage students to fully engage with the World of Work programme, including the World of Work Skills Certificate and, as a first step towards this, to complete the Self Awareness statement.

In addition to the aims for the main target award, the aim of the sandwich year 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:

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

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

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

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 biomedical related areas.

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.

Target award Learning Outcomes - Bachelor of Science with Honours

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

Knowledge and understanding

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

A1. Appreciate fundamental concepts and principles of subjects underpinning biomedical science, including biochemistry, cell and tissue biology, genetics, microbiology, molecular biology, physiology

A2. Understand that biomedical science is the integrated study of a range of human disorders and disease processes together with their laboratory investigation.

A3. Recognise the importance of the theoretical basis of research in biomedical sciences.

A4. Engage with the essential facts, concepts, and principles relevant to the biomedical science specialist subjects of cellular pathology, clinical biochemistry, clinical immunology, medical microbiology, haematology and transfusion science.

Teaching, learning and assessment methods used to enable outcomes to be achieved and demonstrated

Lead lectures, tutorials, seminars, laboratory sessions, workshops, poster sessions, case studies, literature analysis, problem solving, self directed study.

Assessment

Coursework (essays, reports, reviews) examinations (essay style, MCQ and short answer, problem solving, data analysis), oral and poster presentations.

Skills and other attributes

Intellectual Skills

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

B1. Critically evaluate information and data from a variety of sources.

B2. Apply planning, research methodology and analytical skills to the in depth study of a topic in a chosen field of study.

B3. Apply problem solving skills to the laboratory investigation of human health and disease.

B4. Apply strategies for the critical appraisal of laboratory methods.

Teaching, learning and assessment methods used to enable outcomes to be achieved and demonstrated

Lead lectures, tutorials, case studies, laboratory practical classes, research based teaching materials and methods, literature reviews, seminars.

Assessment

Written examinations, laboratory reports, research project reports, literature review manuscripts, and case study reports seminars.

Professional practical skills

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

C1. Plan and execute laboratory experiments with an awareness of good laboratory practice (GLP) and COSHH assessment.

C2. Prepare standard operating procedures.

C3. Maintain laboratory notebooks and prepare laboratory reports.

C4. Use laboratory equipment and reagents to prepare data.

C5. Analyse and interpret laboratory data relevant to the specialist subjects of cellular pathology, clinical chemistry, clinical immunology, medical microbiology, haematology and transfusion science.

Teaching, learning and assessment methods used to enable outcomes to be achieved and demonstrated

Practical laboratory classes, optional sandwich placements in laboratories, data handling workshops, problem-based learning.

Assessment

Practical reports, portfolios, case study reports, project reports and written exams involving data handling.

Transferable / key skills

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

D1. Collect, record and interpret numerical data.

D2. Communicate effectively by discussions, written materials, use of images and presentations.

D3. Use information technology to prepare, process and present information.

D4. Identify targets and follow schedules to meet targets.

D5. Identify and work to collective goals and responsibilities.

Teaching, learning and assessment methods used to enable outcomes to be achieved and demonstrated

Transferable/key skills are embedded in modules within the programme. Examples include the use of spreadsheet and statistical computer packages to analyse data, seminars, oral presentations, group planning and execution of practical sessions, and research projects.

Assessment

Practical computer based exams on the use of IT, group seminars, and oral presentations, project reports.

Self awareness statement.

Students are guaranteed opportunities for practising and receiving feedback about their progress in demonstrating graduate skills.

Alternative target awards

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

Bachelor of Science with Honours (SW) in Biomedical Science -

In addition to the learning outcomes for the main target award, demonstrate the professional and personal skills necessary for effective employment within a professional environment.

Programme structure - programme rules and modules

Programme rules

Students will be offered the opportunity of study abroad at Level 5. If they undertake the Sandwich Year then option of study abroad is not available.

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 [5109BMBMOL], 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 [5108BMBMOL]

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.

Level 6	Potential Awards on completion	Bachelor of Science with Honours
Core	Option	Award Requirements
6100GNBMOL RESEARCH PROJECT (40 credits) 6101BMBMOL STUDY OF DISEASE 1 (20 credits) 6102BMBMOL STUDY OF DISEASE 2 (20 credits) 6103BMBMOL STUDY OF DISEASE 3 (20 credits)	6104BMBMOL CANCER (20 credits) 6105BMBMOL NUTRACEUTICALS AND TOXICOLOGY (20 credits) 6106BMBMOL ADVANCED IMMUNOLOGY AND INFECTION (20 credits) 6107BMBMOL BIOMATERIALS (20 credits) 6108BMBMOL WORK-BASED LEARNING (20 credits)	100 core credits at level 6 20 option credits at level 6

Level 5	Potential Awards on completion	
Core	Option	Award Requirements
5101BMBMOL BIOMEDICAL RESEARCH METHODS (20 credits) 5102BMBMOL CLINICAL BIOCHEMISTRY (20 credits) 5103BMBMOL IMMUNOLOGY AND INFECTION (20 credits) 5104BMBMOL PERSPECTIVES IN BIOMEDICAL SCIENCE (20 credits) 5105BMBMOL HISTOLOGY AND PHYSIOLOGY (20 credits) 5106BMBMOL BLOOD CELL SCIENCE (20 credits)		120 core credits at level 5 0 option credits at level 5

Level 4	Potential Awards on completion	
Core	Option	Award Requirements
4101BMBMOL BIOMEDICAL SKILLS (20 credits) 4102BMBMOL CELL BIOLOGY (20 credits) 4103BMBMOL PRINCIPLES OF BIOCHEMISTRY (20 credits) 4104BMBMOL INTRODUCTION TO BIOMEDICAL SCIENCE (20 credits) 4105BMBMOL ANATOMY, PHYSIOLOGY AND GENETICS (20 credits) 4106BMBMOL MICROBIOLOGY (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 degree programme offers the option of a sandwich route, which involves 1 year of work experience in a specialist field. This occurs at the end of level 5 and the training (which may take place in a NHS or industrial

laboratory) allows students to develop their professional and technical skills. Work related learning is delivered throughout the programme and for those students who are eligible there is a level 6 Work-Based Learning module.

Criteria for admission

A/AS Level

Applicants should have (or expect to obtain) at least 2 'A2' levels or equivalent, including Biology and/or Chemistry with a minimum of 280 points.

BTEC National Diploma

For entry to Biomedical Science, this provision depends on the modules the student has successfully completed and the level at which each module was passed. Three level III units, passed with DMM will normally be required.

AVCE

AVCE applicants should have (or expect to obtain) 260 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 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 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

Non standard entrants (eg MLA) are interviewed. Declaration of disclosure of any criminal convictions including those outstanding.

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. Applicants 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.