

PROGRAMME SPECIFICATION

Bachelor of Science with Honours in Applied Biomedical Science

Awarding institution	Liverpool John Moores University
Teaching institution	LJMU
JACS Code	B900
Programme Duration	Full-Time: 3 Years
Language of Programme	All LJMU programmes are delivered and assessed in English
Subject benchmark statement	Biomedical Science (2015)
Programme accredited by	Institute of Biomedical Science (IBMS) Health and Care Professions Council (HCPC)
Description of accreditation	http://www.ibms.org/go/ibms/policy/statements/ibms-degree-statement http://www.hcpc-uk.org/education/programmes/register/index.asp?id=239&ep=26#courseDetails
Validated target and alternative exit awards	Bachelor of Science with Honours in Applied Biomedical Science Diploma of Higher Education in Applied 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 (BMS) 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 and approved by the HCPC.

To introduce students to the hospital environment in order to help them make informed choices about the direction of their education and training in Biomedical Science.

To introduce the concepts of professional autonomy and accountability.

To develop the skills required for the application of practice as a Biomedical Scientist and register with the HCPC.

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

To develop skills in independent research to enable graduates to undertake postgraduate study.

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.

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.

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 biological sciences that underpin biomedical science, 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 science

A4. Engage with the essential facts, concepts, and principles relevant to 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, work-based learning (portfolio), workshops, poster sessions, case studies, literature analysis, problem solving, data analysis and self directed study.

Assessment

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

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, seminars and case study reports.

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. Conduct appropriate diagnostic and monitoring procedures safely and skillfully.

C3. 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 biochemistry, clinical immunology, medical microbiology, haematology and transfusion science.

C6. Practice within the legal and ethical boundaries of the profession.

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

Practical laboratory classes, work placements in clinical laboratories, data handling workshops, problem-based learning, seminars and lectures

Assessment

Practical reports, portfolios, case study reports, project reports and written exams.

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.
- D6. Audit, reflect on and review practice.

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 computer packages to analyse data, seminars, oral presentations, reflective portfolios and research projects.

Assessment

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

Programme structure - programme rules and modules

Programme rules

Students initially enrol on the Biomedical Science programme (32805) and those students wishing to undertake the Applied Biomedical Science route (31800) may apply as directed before Christmas of the first year. Transfer is dependent upon fulfilling a set of transparent criteria, and is dependent on the availability of clinical placements. If more suitable students apply to transfer than there are clinical placements available, additional transparent selection criteria including interview are applied.

Students will be offered the opportunity of study abroad at Level 5. 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.

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) 6109BMBMOL HOSPITAL PRACTICE 2 (20 credits)		120 core credits at level 6 0 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) 5105BMBMOL HISTOLOGY AND PHYSIOLOGY (20 credits) 5106BMBMOL BLOOD CELL SCIENCE (20 credits) 5107BMBMOL HOSPITAL PRACTICE 1 (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 contains 40 core credits of work experience to be completed in an accredited NHS Trust laboratory. Students are first introduced to the hospital environment in semester 2 of level 4 through an induction process and attendance at a four-week work placement during the summer. In semester 2 of level 5 the Hospital Laboratory Practice 1 module [5107BMBMOL] begins. This module also addresses the concepts of professional autonomy and accountability as well as enabling the students to develop the skills required for the application of practice in the work place. At the end of level 5, students continue their professional training during a 14-week hospital placement, the module is therefore assessed after this 14-week placement. At level 6 the students take Hospital Laboratory Practice 2 [6109BMBMOL] in semester 2 and complete their professional portfolio. Portfolio verification is completed during a further four-week placement. Students who successfully complete these two modules are eligible to apply for HCPC registration when they achieve their Honours degree.

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 260 points.

BTEC National Diploma

For entry to BMS, 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.

Other

Non standard entrants may be interviewed. Declaration of disclosure of any criminal convictions including those outstanding is required. Occupational Health screening and vaccinations as necessary.

Students on Biomedical Science who undertake a suitable sandwich placement in an approved training laboratory and have undertaken an IBMS Certificate of Competence portfolio may be considered to transfer to the Applied programme at the start of level 6.

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. An IELTS score of 6.0 (5.5 in each element) is a requirement.

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.