

## PROGRAMME SPECIFICATION

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### Bachelor of Science with Honours in Applied Biomedical Science

<b>Awarding institution</b>	Liverpool John Moores University
<b>Teaching institution</b>	LJMU
<b>JACS Code</b>	B900
<b>Programme Duration</b>	Part-Time: 5 Years
<b>Language of Programme</b>	All LJMU programmes are delivered and assessed in English
<b>Subject benchmark statement</b>	Biomedical Science (2015)
<b>Programme accredited by</b>	Institute of Biomedical Science (IBMS) Health and Care Professions Council (HCPC)
<b>Description of accreditation</b>	Accredited by the Institute of Biomedical Science (IBMS). Approved by the Health and Care Professions Council (HCPC) for the purpose of providing eligibility to apply for registration with the HCPC as a biomedical scientist.
<b>Validated target and alternative exit awards</b>	Bachelor of Science with Honours in Applied Biomedical Science  Diploma of Higher Education in Applied Biomedical Science  Certificate of Higher Education in Applied Biomedical Science
<b>Programme Leader</b>	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 engage with the development of employability skills by completing a self-awareness statement.

#### 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 biomedical 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.

Apply a broad knowledge base, incorporating theoretical concepts and employing a wide range of specialised skills to real and theoretical biomedical 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 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 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. Appreciate fundamental concepts and principles of biological sciences that underpin biomedical science, biochemistry, cell and tissue biology, genetics, microbiology, molecular biology, physiology.
2. Understand that biomedical science is the integrated study of a range of human disorders and disease processes together with their laboratory investigation.
3. Recognise the importance of the theoretical basis of research in biomedical science
4. 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.
5. Critically evaluate information and data from a variety of sources.
6. Apply planning, research methodology and analytical skills to the in-depth study of a topic in a chosen field of study.
7. Apply problem-solving skills to the laboratory investigation of human health and disease.
8. Apply strategies for the critical appraisal of laboratory methods.
9. Plan and execute laboratory experiments with an awareness of good laboratory practice (GLP) and COSHH assessment.
10. Conduct appropriate diagnostic and monitoring procedures safely and skillfully.
11. Prepare laboratory reports.
12. Use laboratory equipment and reagents to prepare data.
13. Analyse and interpret laboratory data relevant to the specialist subjects of cellular pathology, clinical biochemistry, clinical immunology, medical microbiology, haematology and transfusion science.
14. Practice within the legal and ethical boundaries of the profession.
15. Collect, record and interpret numerical data.
16. Communicate effectively by discussions, written materials, use of images and presentations.
17. Use information technology to prepare, process and present information.
18. Identify targets and follow schedules to meet targets.
19. Identify and work to collective goals and responsibilities.
20. Audit, reflect on and review practice.

## **Teaching, Learning and Assessment**

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

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.

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

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

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

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

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

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.

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

## Programme structure - programme rules and modules

Part time students will usually take L4 modules as CPDs and enrol on the Applied BMS route as level 5 students, though it is possible that they may wish to enrol immediately at level 4. To some extent this will depend on their funding from their employer. Students will study alongside full time students on Biomedical Science and Applied Biomedical Science. Students have individual programmes according to the needs of their employer and time available. They take all of the modules but not necessarily in the same order. In order to ensure that students have appropriate underpinning for the route they take the Programme Leader oversees all students and checks for completion of appropriate modules at a lower level before any given module is attempted.

The following modules on the programme are approved as single-module Certificate of Professional Development awards (CPDs):

35862 Biomedical Skills (4101BMBMOL); 35863 Cell Biology (4102BMBMOL); 35864 Principles of Biochemistry (4103BMBMOL); 35865 Introduction to Biomedical Science (4104BMBMOL); 35866 Anatomy Physiology and Genetics (4105BMBMOL); 35867 Microbiology (4106BMBMOL); 35868 Biomedical Research Methods (5101BMBMOL); 35869 Clinical Biochemistry (5102BMBMOL); 35870 Immunology and Infection (5103BMBMOL); 35871 Histology and Physiology (5105BMBMOL); 35872 Blood Cell Science (5106BMBMOL); 35873 Hospital Practice 1 (5107BMBMOL); 35874 Research Project (40 credits, yearlong) (6100GNBMOL); 35875 Study of Disease 1 (6101BMBMOL); 35876 Study of Disease 2(6102BMBMOL); 35877 Study of Disease 3 (6103BMBMOL) and 35878 Hospital Practice 2 (6109BMBMOL)

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)		120 core credits at level 5 0 option credits at level 5

5106BMBMOL BLOOD CELL SCIENCE (20 credits) 5107BMBMOL HOSPITAL PRACTICE 1 (20 credits)		
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. Most part time students will be in an accredited laboratory and completing work-based learning throughout their studies. For the occasional student who is not in this position, they will be introduced to the hospital environment in level 4 through an induction process and attendance at a four-week work placement during the summer. Students will be completing their portfolio of competence whilst studying, and will formally be assessed in the modules 5107BMBMOL and 6109BMBMOL alongside full time students on Applied Biomedical Science. 5107BMBMOL 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. 6109BMBMOL completes their professional portfolio and includes portfolio verification. 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 112 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) 112 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](http://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.*