

PROGRAMME SPECIFICATION

Bachelor of Science with Honours in Zoology

Awarding institution	Liverpool John Moores University
Teaching institution	LJMU
UCAS Code	C300
JACS Code	C300
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	Biosciences November 2015
Programme accredited by	Royal Society of Biology
Description of accreditation	https://www.rsb.org.uk/education/accreditation/courses/Liverpool+John+M
Validated target and alternative exit awards	Bachelor of Science with Honours in Zoology Bachelor of Science with Honours (SW) in Zoology Diploma of Higher Education in Zoology Diploma in Higher Education (SW) in Zoology Certificate of Higher Education in Zoology
Programme Leader	Penny Oakland

Educational aims of the programme

The aims of the Zoology Programme are to:

Provide a defined academic programme with clear learning outcomes which allows students to develop their knowledge and understanding of the fundamental principles of zoology by means of diverse learning and teaching methods and assessment strategies.

Develop effective laboratory and field skills appropriate to the study of zoology and an understanding of how they can be applied to research.

Enhance graduate employability by producing graduates with the knowledge, skills and confidence required to gain careers in the biosciences or other areas that demand well developed critical thinking, professional practical, analytical and transferable skills.

Encourage students to engage with the development of employability skills by completing self-awareness and organisational awareness statements.

Provide opportunities for development of creativity and innovation with reference to aspects of Zoology.

Promote an ethos of continuing professional development, lifelong learning and an appreciation of how science impacts on society.

In addition to the aims for the main target award, the sandwich programme aims 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:

Recall acquired knowledge, facts and procedures of basic concepts and principles relating to zoology.

Explain key zoological concepts and processes and interpret scientific data.

Operate in a range of scientific contexts related to zoology 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:

Apply a broad knowledge base, both theoretical and practical, to determine solutions to a range of scientific problems relating to zoology.

Critically analyse information, demonstrating significant judgement across a range of zoological areas.

Accept responsibility for determining and achieving personal and/or group outcomes.

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 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. Evaluate, utilise and present fundamental facts, concepts, principles and theories of zoology through the study of molecular, cellular and physiological processes, genetics, evolution, behaviour and ecology of animals.
2. Recognise and discuss the complexity and diversity of animal form and function.
3. Demonstrate detailed knowledge and advanced understanding of a selected range of specialised options in zoology.
4. Discuss the interdisciplinary nature and professional application of zoology.
5. Recognise and apply zoological theories, paradigms, concepts or principles.
6. Analyse, synthesise and summarise information critically, including published research or reports.
7. Obtain and integrate several lines of zoological evidence to formulate and test hypotheses.
8. Apply zoological knowledge and understanding to address familiar and unfamiliar problems.
9. Recognise the moral and ethical issues of investigations and appreciate the need for ethical standards and professional codes of conduct.
10. Demonstrate competence and progressive development in the basic and core experimental skills appropriate to the study of zoology.
11. Design, plan, conduct and report on investigations, which may involve primary or secondary data.
12. Obtain, record, collate and analyse data using appropriate techniques in the field and/or laboratory, working individually or in a group, as is most appropriate for the subject under study.
13. Undertake field and/or laboratory investigations of animals in a responsible, safe and ethical manner.
14. Demonstrate an understanding of the ethical and other issues relating to animal welfare.
15. Use and interpret a variety of sources of scientific information: textual, numerical, verbal and graphical.
16. Prepare, process, interpret and present scientific data, using appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programmes for presenting data visually.
17. Communicate scientific information effectively in written, verbal and visual forms to a variety of audiences.
18. Cite and reference work in an appropriate manner, ensuring academic integrity and the avoidance of plagiarism whether intentional or not.
19. Use the internet and other electronic sources critically as a means of communication and a source of information.
20. Develop the skills necessary for independent lifelong learning e.g. working independently, time management, organisational and team working skills.
21. Identify and work towards targets for personal, academic, professional and career development.

Alternative target awards

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

Bachelor of Science with Honours (SW) in Zoology -

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.

Teaching, Learning and Assessment

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

Knowledge and understanding is promoted through a diversity of learning and teaching methods and assessment strategies. Learning and teaching methods include: lectures; tutorials; laboratory work; fieldwork; workshops; seminars; problem-based learning session; work-related learning and independent study. Knowledge and understanding are assessed in a variety of ways including: written examinations; online tests; laboratory and fieldwork reports; essays and critical reviews; data analysis and interpretation exercises; seminar and poster presentations.

Intellectual skills, e.g.: applying theories and concepts; analysing and synthesising information critically; integrating evidence; applying knowledge and recognition of moral and ethical issues are developed in all modules with an increasing emphasis through the levels of the programme and culminate in the level 6 Research Project. A range of examination questions (e.g. essays, interpretative questions) and a wide variety of coursework including: laboratory and fieldwork reports; critical reviews; data analysis and interpretation exercises; seminar and poster presentations, assess ability for these intellectual skills.

Practical and professional skills are taught during laboratory sessions, fieldwork and workshops. Core principles and minimum standards of practical work are introduced at level 4, particularly in the Practical Skills for Zoology module which cannot be passed without core practical competencies being met. Practical skills are further developed through levels 5 & 6 where more specialist skills are also introduced. The Research Project and Work-based Learning modules at level 6 are opportunities for students to apply these skills independently and in a workplace setting. Practical and professional skills are assessed through practical tests, skills portfolios, laboratory and fieldwork reports (including the level 6 Research Project report).

Transferable and key skills are inherent within the programme, but specifically they are taught in core modules at all levels (Practical Skills for Zoology and Fundamentals of Scientific Research at level 4; Research Skills & Employability at level 5; Research Project at level 6). These transferable and key skills are assessed through coursework at all levels, in all modules.

Programme structure - programme rules and modules

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 (5255NATSCI) 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 (5251NATSCI). 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

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 the Sandwich Year Zoology module (5220NATSCI). 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
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Core	Option	Award Requirements
6201NATSCI RESEARCH PROJECT (40 credits) 6207NATSCI CURRENT TOPICS IN ZOOLOGY (20 credits)	6203NATSCI APPLICATIONS OF GENETICS IN HEALTH AND DISEASE (20 credits) 6206NATSCI INTERNATIONAL EXPEDITION (20 credits) 6208NATSCI ANIMAL LEARNING AND COGNITION (20 credits) 6211NATSCI NEUROBIOLOGY (20 credits) 6212NATSCI PARASITOLOGY (20 credits) 6213NATSCI APPLIED MARINE BIOLOGY (20 credits) 6215NATSCI ANIMAL WELFARE (20 credits) 6300NATSCI WORK-BASED LEARNING (20 credits)	60 core credits at level 6 60 option credits at level 6
Level 5	Potential Awards on completion	
Core	Option	Award Requirements
5201NATSCI RESEARCH SKILLS AND EMPLOYABILITY (20 credits) 5206NATSCI ANIMAL EVOLUTION AND DIVERSITY (20 credits) 5215NATSCI COMPARATIVE ANIMAL PHYSIOLOGY (20 credits)	5203NATSCI BEHAVIOURAL ECOLOGY (20 credits) 5205NATSCI GENES AND GENOMES (20 credits) 5209NATSCI MARINE AND FRESHWATER BIOLOGY (20 credits) 5210NATSCI WILDLIFE FORENSICS (20 credits) 5213NATSCI ANIMAL FIELD SKILLS (20 credits) 5214NATSCI DEVELOPMENTAL BIOLOGY (20 credits)	60 core credits at level 5 60 option credits at level 5
Level 4	Potential Awards on completion	
Core	Option	Award Requirements
4201NATSCI FUNDAMENTALS OF SCIENTIFIC RESEARCH (20 credits) 4204NATSCI PRACTICAL SKILLS FOR ZOOLOGY (20 credits) 4206NATSCI GENETICS AND EVOLUTION (20 credits) 4208NATSCI ANIMAL BEHAVIOUR (20 credits) 4209NATSCI ECOLOGY (20 credits) 4210NATSCI ANIMAL PHYSIOLOGY (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)

Graduate Skills are taught and practised within a wide range of modules and assessed within the core modules at: Level 4 Fundamentals of Scientific Research and Practical Skills for Zoology; Level 5 Research Skills & Employability and Comparative Animal Physiology; Level 6 Research Project and Current Topics in Zoology. At Level 4 as part of Fundamentals of Scientific Research students will complete a Self-Awareness Statement as part of the module assessment. This is designed to foster student awareness and engagement with their

personal and professional development. At Level 5 as part of Research Skills and Employability students will complete an Organisational Awareness Statement as part of the module assessment. This is designed to foster student awareness of zoology-related organisations. Work-related learning opportunities are also available through the routes of employer seminars, guest lectures/workshops and meeting professionals in animal-related roles during fieldwork. There are options for residential field work at level 5 and 6. The Work-based Learning placement (135 hrs) and the Sandwich placement (12 months) offer the opportunity for students to gain work experience with a relevant professional organisation. Students are supported by the Professional Training Tutor who is responsible for advertising placements and promoting vocational training to students. These opportunities may be in the UK or abroad.

Criteria for admission

A/AS Level

Applicants should have (or expect to obtain) at least two A2 Levels or equivalent. These should include at least one appropriate science (normally Biology) but two are preferable. Our minimum points tariff is 112 points. Our offers may be grade specific (e.g. we usually expect at least 32 points in A2 Biology).

BTEC National Diploma

BTEC applicants should hold or be studying an appropriate Diploma and have (or expect to obtain) the award with the following grades: BTEC Extended Diploma Distinction/Merit/Merit. Must include a significant number of science-based modules, usually a minimum of six.

AVCE

AVCE applicants should normally have (or expect to obtain) at least 112 points in an appropriate discipline (normally science).

Irish Leaving Certificate

Applicants must have passed (or expect to pass) their Irish Higher exams with 112 points from 3 subjects, 2 of which must be sciences (Geography may be considered a science).

Scottish Higher

Applicants must have passed (or expect to pass) their exams with 112 from 3 subjects, 2 of which must be sciences (Geography may be considered a science).

International Baccalaureate

Applicants must have (or expect to obtain) the full award (minimum 26) including grade 5 in one appropriate science.

Access

Access applicants should have (or expect to obtain) an overall merit in an appropriate QAA-approved Access course.

Higher national diploma

Second year entry can potentially be arranged for candidates who have a HND or HNC with merits in the key relevant units or for those who have passed the first year of a degree programme in a closely related subject elsewhere.

Other

Prior to starting the programme applicants must have obtained grade 4 or grade C or above in English Language

and Mathematics GCSE or:

- Key Skills Level 2 in English/ Maths
- NVQ Level 2 Functional skills in Maths and English Writing and or Reading
- Skills for Life Level 2 in Numeracy/English
- Higher Diploma in Maths/ English
- Functional skills level 2 in Maths/ English

Mature entry

We welcome applications from highly motivated mature applicants with relevant experience but without the necessary formal qualifications. To qualify as a mature student you have to be at least 21 years of age by the 31st December of the year of entry.

Overseas qualifications

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. For example, International Baccalaureate applicants must have (or expect to obtain) the full award, including grade 5 in one appropriate science.

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.