

Programme Specification

MBI-2018: Marine Biology

LU Foundation Degree in Science awarded by Lancaster University (FHEQ Level 5)

LU Bachelor of Science with Honours (Top-up) awarded by Lancaster University (FHEQ Level 6)

Programme Status: Approved | Version: 1

Introduction

This programme specification provides a summary of the main features of the Marine Biology programme and the learning outcomes that you as a student might reasonably be expected to achieve and demonstrate on successful completion of the programme.

Further detailed information related to this programme and the College can be found in the following resources:

- Programme Handbook
- B&FC Student Handbook
- B&FC Admissions Policy
- Work based and placement learning handbook (for foundation degrees)
- Student guide to assessment and feedback

Key Programme Information

Programme Code	MBI-2018
Programme Title	Marine Biology
Teaching Institution	Blackpool and The Fylde College
Professional, Statutory and Regulatory Body (PSRB) Accreditation	None
UCAS Code	
Language of Study	English
Version	1
Approval Status	Approved
Approval Date	21 March 2018
JACS Code	
Programme Leader	Linda Martin

Programme Awards

Award	Award Type	Level	Awarding Body
LU Foundation Degree in Science	Foundation Degree (240 credits)	Level 5	Lancaster University
LU Bachelor of Science with Honours (Top-up)	Honours Top-up Degree (120 credits)	Level 6	Lancaster University

Programme Overview

The Marine Biology programme will develop your scientific and transferable skills that underpin the subject area. It supports you to engage with theoretical principles and critically evaluate both your own, and others' research, whilst gaining strong practical skills, to enable you to seek employment in this sector. The programme is enriched by work experience and preparatory practical experiences to fully equip you for industry or for further study. You will develop your skills as a biological scientist by completing field work and sampling, carrying out studies of the environment and ecosystems, and working with local employers to carry out scientific study and research. Marine Biology employment opportunities are rich and varied, with graduates progressing to a host of employers, environmental organisations and private consultation companies (including Natural England, North West Fisheries, APEM Ltd Environmental Consultants and biodiversity specialists, Merlin Entertainment Sea Life). The work you carry out has real, measurable impact on the local environment through links with conservation trusts and

research centres, complementing the teaching and learning within your lectures and growing your employability and career options. This programme is validated by the University of Lancaster.

Admission Criteria

A minimum of 80 UCAS points (excluding functional skills), which includes at least one of the following - Biology, Chemistry, Physics, Geography or Environmental Science or BTEC/QCF Diploma in a Science discipline, Applied Science, Animal Management and GCSEs in English Language and maths at grade C/4 or above. Applicants who are able to demonstrate relevant work/life skills or knowledge will also be considered on an individual basis.

Career Options and Progression Opportunities

Graduates of the Foundation Degree at Level 5 can go on to employment, having developed a sound knowledge of theory and practice in Marine Biology, alongside relevant work experience. Many students join the BSc top-up programme at B&FC to continue their studies.

Our graduates have ultimately progressed onto Level 7 (MSc) programmes or gained employment at a professional level in a number of sector areas. Our recent graduates have progressed on to Masters Degrees at Bangor, Lancaster, Herriot-Watt (Edinburgh) and Edge Hill Universities and also onto PGCE programmes here at Blackpool and The Fylde College and at Bangor College. Progression and employability are key to the structure of the programme, as demonstrated by the wide variety of employment gained with organisations such as North West Fisheries, APEM Ltd Environmental Consultants, Natural England and Merlin Entertainment. Alumni have taken up positions as researchers, teachers, sustainability managers, science officers with Inshore Fisheries Conservation Authorities, Rivers Trust and aquaria such as the Sea Life centre.

Programme Aims

Foundation Degree

- Raise awareness of the complexity of the organisation of life forms, from molecules to ecosystems and related anthropogenic impact, with consideration of the interdisciplinary and multidisciplinary approaches required to study this complexity
- Provide a research informed science education, which builds subject knowledge alongside development of practical and field work skills, linked to an understanding of relevant safety and ethical issues
- Develop an understanding of the variation in natural systems and their evolution, alongside the appropriate use of hypothesis testing and statistical analysis, required to ensure valid conclusions are made from investigations
- Encourage a creative and academic approach to study, including an appreciation of the value of current hypotheses, coupled to an appreciation of the uncertainty inherent in science
- Foster transferable skills such as team working, leadership and communication skills through providing appropriate developmental opportunities within and around the curriculum
- Challenge students in their personal development through the encouragement of reflective practice, target setting and lifelong learning
- Raise awareness of graduate skills relevant to the work placement through interaction with employers, live briefs and work based learning

BSc top-up

- Encourage critical engagement with the scientific literature in marine biology with a view to producing intellectual arguments, showing appreciation of different viewpoints
- Develop skills in critical evaluation of primary and secondary data in the field of marine biology, with a view to proposing further lines of enquiry
- Support the development of creativity in the design of a major scientific investigation which is

hypothesis driven, valid and reliable

-Foster independent development of graduate skills and attributes, with a focus on personal development planning

-Produce professional graduates that are skilled and well prepared to enter and contribute to the environmental agenda, through development of employability skills and career development opportunities

Programme Learning Outcomes

Level 5

Upon successful completion of this level, students will be able to:

1. Apply elements of maths, physics and chemistry that are relevant to marine biology and ecology
2. Describe and explain the different levels of organisation and complexity, from molecules, through cells, organs, organisms, populations, communities, ecosystems, to biomes and the whole globe
3. Describe and explain key ecological processes: energy, mass and element fluxes between components and trophic levels; evolution and adaptation; competition and predation; population dynamics
4. Discuss the structure and function of organisms, including key molecular, genetic and physiological processes
5. Explain local and global biodiversity, for marine organisms, used in its widest sense to include genetic, taxonomic, habitat, and biome
6. Apply practical and fieldwork skills, to test hypotheses and identify and solve complex problems relating to marine ecology and management, with consideration to health, safety and ethical practice
7. Retrieve, select and collate marine science, ecological, environmental and biological information
8. Analyse and interpret quantitative information in graphs, figures, tables and equations and use appropriate statistical tests

Level 6

Upon successful completion of this level, students will be able to:

9. Critically analyse, synthesise and summarise published research, reports and other sources of information
10. Critically analyse scientific data from primary and secondary sources and communicate research findings in a range of media to a range of audiences
11. Apply critical understanding of ecological methodologies and data analyses in order to plan and conduct research, draw conclusions and make recommendations
12. Critically evaluate key environmental issues facing the world's marine and coastal systems, including natural resource management, conservation and sustainable development and climate change

Programme Structure

Module	Level	Credits	%	Category	Description	Length/Word Count	Grading Method
Stage 1							
B4SCMBI: Introduction to Academic Study (Mandatory)	4	20	60%	Coursework: Other	Written piece and reflection	2000	Letter Grade
			40%	Practical: Other	Case study, analysis, interpretation (1500 words) and poster presentation (15 minutes)	15	Letter Grade
MBI401: The Marine Environment (Mandatory)	4	20	50%	Coursework: Report	Data analysis	2000	Letter Grade
			50%	Coursework: Other	Academic Poster	1000	Letter Grade
MBI402: Core Science (Mandatory)	4	20	60%	Coursework: Report	Scientific Report	2500	Letter Grade
			40%	Written Exam: Formal Written Examination	Unseen Examination	120	Percentage Grade
MBI403: Coastal Ecology (Mandatory)	4	20	60%	Coursework: Report	Scientific Report	2000	Letter Grade
			20%	Practical: Presentation	n/a	10	Letter Grade
			20%	Practical: Other	ID Test	45	Letter Grade
MBI404: Coastal Geomorphology (Mandatory)	4	20	50%	Coursework: Report	Students complete a report based on field and laboratory work.	2000	Letter Grade
			50%	Coursework: Case Study	n/a	2000	Letter Grade
MBI405: Evolution and Biodiversity (Mandatory)	4	20	50%	Coursework: Report	Scientific Report	3000	Letter Grade
			25%	Coursework: Case Study	Evolution of a marine species	1500	Letter Grade
			25%	Practical: Presentation	Oral Presentation	15	Letter Grade
Stage 2							
B5MBI-16: Work Based Learning (Mandatory)	5	20	70%	Coursework: Report	Project	3000	Letter Grade
			30%	Practical: Presentation	Poster - Critical Reflection & Target Setting	2000	Letter Grade
MBI501: Marine Ecosystem Ecology (Mandatory)	5	20	65%	Coursework: Report	Scientific Report	3500	Letter Grade
			35%	Practical: Presentation	Oral Presentation	20	Letter Grade
MBI502: Marine Invertebrates (Mandatory)	5	20	50%	Coursework: Report	Scientific report	2000	Letter Grade
			50%	Written Exam: Formal Written Examination	Unseen examination	120	Percentage Grade
MBI503: Marine Microbiology (Mandatory)	5	20	50%	Coursework: Report	n/a	3000	Letter Grade

MBI503: Marine Microbiology (Mandatory)	5	20	50%	Written Exam: Formal Written Examination	Seen exam	180	Letter Grade
MBI504: Marine and Coastal Management (Mandatory)	5	20	30%	Coursework: Case Study	n/a	1500	Letter Grade
			70%	Coursework: Report	Scientific Report	3000	Letter Grade
MBI505: Fish Biology (Mandatory)	5	20	40%	Practical: Presentation	Oral presentation	15	Letter Grade
			60%	Practical: Other	Scientific Report	120	Letter Grade
Stage 3							
MBI601: Marine Pollution (Mandatory)	6	20	50%	Coursework: Report	Scientific Report	3000	Letter Grade
			25%	Coursework: Case Study	Pollution and remediation	1500	Letter Grade
			25%	Coursework: Essay	Legislation	1500	Letter Grade
MBI602: Dissertation (Mandatory)	6	40	10%	Coursework: Plan	Project proposal	1000	Letter Grade
			70%	Coursework: Dissertation	Report	8000	Letter Grade
			20%	Practical: Presentation	Oral presentation	15	Letter Grade
MBI603: Marine Research Skills (Mandatory)	6	20	50%	Coursework: Report	Data analysis report	2000	Letter Grade
			50%	Coursework: Other	Academic Poster	1000	Letter Grade
MBI604: Marine Megafauna (Mandatory)	6	20	50%	Coursework: Literature Review	Critical review	2500	Letter Grade
			50%	Written Exam: Formal Written Examination	Data and resource-based	120	Letter Grade
MBI605: Fisheries Ecology (Mandatory)	6	20	50%	Written Exam: Formal Written Examination	Unseen examination	120	Letter Grade
			50%	Practical: Presentation	Oral presentation	20	Letter Grade

Study Workload

You will need to study independently to develop a broader understanding of marine biology. Assessments involve practical work in laboratories, written investigations, and consideration of theory and so you will need to develop your independent study skills. This is supported through excellent Canvas (VLE) resources online, to enable you to study in your own time.

Time allocated for your career development will provide you with an opportunity to focus on applying your learning and experiences to the development of graduate attributes, your professional practice and career intentions. A range of self-paced digital resources to support work based and independent learning will also be made available to you on your VLE.

Programme Delivery: Learning and Teaching

Whilst lectures, seminars and practical workshops feature strongly in this programme, there are a range of opportunities available due to the advantages of being taught in small cohorts. This means that fieldwork skills can be developed as part of tutor- and student-led activities both in the laboratory and the field, with many regular trips to local areas of marine interest and growth. Our flexible and reactive approach to learning means events and weekly catches from local anglers can be built-in to enhance sessions where suitable.

Programme Delivery: Assessment

A variety of assessment methods link to both personal development and industry practices and include the following:

- Laboratory reports and data interpretation exercises
- Critical analyses of case studies
- Seen and unseen examinations
- Individual and group presentations (whether oral and/or technology-based)
- Critical self and peer-evaluation
- Role analyses/evaluations
- Logbooks and diaries relating to professional practice/work placement and Personal Development Planning
- External placement or work-based learning reports
- Powerpoint presentations and poster production

This range of methods is used to reflect the programme aims and learning outcomes, alongside supporting your development as a marine biologist. They enable us to provide feedback to you and identify ways for you to improve. They will contribute to your module grade and final award.

Programme Delivery: Work Based and Placement Learning

Work Based learning supports the development of higher level learning, where the learning in College can be applied to a work environment. You are encouraged and supported to find work placements throughout the programme, with work-based learning assessment embedded in the second year. For this, you will create a log of scientific findings and techniques adopted during your placement, which is used to generate a written report. Historically, students have worked on live briefs and current areas of industrial interest, whilst spending 96 hours placed with relevant organisations. You will create a presentation of your work as part of a poster event, attended by employers and environmental representatives. These valuable sessions allow you to demonstrate your employability skills, in a professional, yet supportive environment, and enable you to demonstrate your ability to discuss an area of your own particular interest.

At level 5 there is an emphasis on the nature of contemporary work based learning opportunities that can occur in different contexts in terms of where you are in your professional career or learning journey. The practice of work based learning relates to your academic and professional development to prepare you for graduate employment and career development.

We recognise that for some students, work-based learning will be linked directly to their employment or a structured work placement, for others, it may relate to a specific live-brief or scenario which has been co-created with an employer. Your work-based learning experience may fall in to one of the following categories or it could be a combination of all three.

Learning through work: structured work placements or internships undertaken for a minimum of 30 hours (equivalent to a 5-day industry placement) as part of the module to provide you with an experience of an employment situation where the work you undertake will provide a key source for your learning, including remote working and work undertaken in non-employed settings i.e. volunteering

Learning at work: if you are employed in an appropriate setting and your subject discipline is embedded in the workplace.

Learning for work: live work-based project which involves employers in the commissioning of industry briefs, projects or research. Similar to learning through work, it provides you with a work-based experience of your industry, where the work you undertake will provide an opportunity to connect theory and practice to work-based learning.

Work-based learning activities

There are a variety of work-based learning activities which you can engage, including (where required) work placements. In order for you to learn from your experiences it is recommended that you should engage in a minimum of 30 hours of work based learning activities. These activities can include:

- Researching a company or organisation a student may wish to join as an employee
- Attending a careers interview, job application and interview skills
- Understanding the job market, skills and attributes sought by employers.
- Developing a graduate employability profile e.g. LinkedIn
- Career planning, professional development and target setting
- Evaluating role and responsibilities in the workplace
- Incorporating formative and summative feedback in to professional and academic targets

You can discuss the range of activities available to you and these can be incorporated to your learning experience with your Work-based Learning Module Tutor and Progress Tutor.

Programme Delivery: Graduate Skill Development

The Marine Biology programme will support a wide range of skills' development, enabling you to commit to a career in this sector or in related areas. The programme is designed to build these skills over time, to embed a strong commitment to lifelong learning. You will be given opportunities to focus on your role as a global citizen, by considering ethical and professional issues related to the marine environment. You will develop excellent communication skills, verbal, written and digital, so that you can engage with the wider scientific community. Whilst carrying out practical and field work, you will strengthen your leadership and teamwork skills, and also become an independent and autonomous student.

Study Costs: Equipment Requirements

Due to the number of field trips, you will need to supply your own warm, waterproof clothing and Wellington boots. This can start from around £40. All safety equipment for laboratory work is provided by the college. There are small costs associated with printing of work and posters over the duration of the course.

1 residential field trip to Millport typically costs around £300/student, although this will be partially funded. The cost covers travel, accommodation, food and boat hire.

Study Costs: Additional Costs

As part of the programme, you are strongly recommended to attend residential field trips, which provides an opportunity to develop practical skills and embed theoretical concepts. Costs involved with this trip cover food, transport and accommodation and typically comes to around £300, although this is calculated yearly and is subject to change. Travel for local field trips is paid for by the college. There may be additional costs to consider such as printing and photocopying

Related Courses

The Marine Biology programme of study is unique at the Blackpool and Fylde College, with only a handful of institutions providing the programme nationally. Other science degrees are available, such as Human Biosciences programme, also located at our University Centre. Upon completion of the Marine Biology BSc, graduates are able to begin post-graduate study as part of a masters (MSc) qualification, or to seek further professional qualifications such as chartership status from the RSB, IMAREST or CIEEM, amongst others.