MBiol Marine Biology

Programme Specification

Primary Purpose

Course management and quality assurance.

Secondary Purpose

Detailed information for students, staff and employers. Current students should refer to the related Course Handbook for further detail.

Disclaimer

The University of Portsmouth has checked the information given in this Programme Specification. We will endeavour to deliver the course in keeping with this Programme Specification; however, changes may sometimes be required arising from annual monitoring, student feedback, review and update of units and courses. Where this activity leads to significant changes to units and courses, there will be prior consultation of students and others, wherever possible, and the University will take all reasonable steps to minimize disruption to students. It is also possible that the University may not be able to offer a unit or course for reasons outside of its control, for example; the absence of a member of staff or low student registration numbers. Where this is the case, the University will endeavour to inform applicants and students as soon as possible. Where appropriate, the University will facilitate the transfer of affected students to another suitable course.

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Course Details

1. Named Awards

MBiol Marine Biology

2. Course Code (and UCAS Code if applicable)

Course Code: C2503F

UCAS Code – C160

3. Awarding Body

University of Portsmouth

4. Teaching Institution

University of Portsmouth

5. Accrediting Body

N/A

6. QAA Benchmark Groups

Biosciences v 2015

QAA Masters Degree Characteristics 2010

7. Document Control Information

V1.2 July 2017

8. Effective Session

2018/19

9. Author

Dr Julian Mitchell

10. Faculty

Faculty of Science

11. Department

School of Biological Sciences

Curriculum

12. Educational Aims

- To develop an appreciation of marine biology and ecology based on a sound understanding of biological science as a whole.
- To enable students to select a focus for their studies in the light of insights gained during their broadly based first year of study

- To develop and refine students' intellectual, critical and practical skills in the acquisition, analysis, interpretation, understanding, evaluation and presentation of biological information.
- To enable students to form scientific judgements, make decisions and be able to demonstrate competence in key transferable skills.
- To foster an active and self-reflective learning approach to enable students to engage in lifelong learning.
- To provide a firm foundation for further training or employment in a range of contexts in which the combination of biological knowledge and/or analytical and critical enquiry skills are required.
- To produce graduates with an appreciation of the value to society of an education in science, particularly in marine biology.

13. Reference Points

- Scholarship and research expertise of academic staff
- University of Portsmouth Curriculum Framework Document
- QAA Code of Practice for the Assurance of Academic Quality and Standards in Higher Education
- Biosciences Benchmark Statements

14. General Learning Outcomes

Level 4

Certificates of Higher Education are awarded to students who have demonstrated:

- knowledge of the underlying concepts and principles associated with their area(s) of study, and an ability to evaluate and interpret these within the context of that area of study
- an ability to present, evaluate and interpret qualitative and quantitative data, in order to develop lines of argument and make sound judgements in accordance with basic theories and concepts of their subject(s) of study

Typically, holders of the qualification will be able to:

- evaluate the appropriateness of different approaches to solving problems related to their area(s) of study and/or work
- communicate the results of their study/work accurately and reliably, and with structured and coherent arguments
- undertake further training and develop new skills within a structured and managed environment

And holders will have:

- the qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility

Level 5

Diplomas in Higher Education are awarded to students who have demonstrated:

- knowledge and critical understanding of the well-established principles of their area(s) of study, and of the way in which those principles have developed
- ability to apply underlying concepts and principles outside the context in which they were first studied, including, where appropriate, the application of those principles in an employment context
- knowledge of the main methods of enquiry in the subject(s) relevant to the named award, and ability to evaluate critically the appropriateness of different approaches to solving problems in the field of study
- an understanding of the limits of their knowledge, and how this influences analyses and interpretations based on that knowledge

Typically, holders of the qualification will be able to:

- use a range of established techniques to initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis
- effectively communicate information, arguments and analysis in a variety of forms to specialist and non-specialist audiences, and deploy key techniques of the discipline effectively
- undertake further training, develop existing skills and acquire new competences that will enable them to assume significant responsibility within organisations

And holders will have:

- the qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and decision-making

Level 6

Bachelor's degrees/Bachelor's degrees with honours are awarded to students who have demonstrated:

- a systematic understanding of key aspects of their field of study, including acquisition of coherent and detailed knowledge, at least some of which is at, or informed by, the forefront of defined aspects of a discipline
- an ability to deploy accurately established techniques of analysis and enquiry within a discipline
- conceptual understanding that enables the student:
  - to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of a discipline
  - to describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in the discipline
- an appreciation of the uncertainty, ambiguity and limits of knowledge
- the ability to manage their own learning, and to make use of scholarly reviews and primary sources (for example, refereed research articles and/or original materials appropriate to the discipline)

Typically, holders of the qualification will be able to:

- apply the methods and techniques that they have learned to review, consolidate, extend and apply their knowledge and understanding, and to initiate and carry out projects
- critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution - or identify a range of solutions - to a problem
- communicate information, ideas, problems and solutions to both specialist and non-specialist audiences

And holders will have:

- the qualities and transferable skills necessary for employment requiring:
  - the exercise of initiative and personal responsibility
  - decision-making in complex and unpredictable contexts
- the learning ability needed to undertake appropriate further training of a professional or equivalent nature

Level 7

Master's degrees are awarded to students who have demonstrated:

- a systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study or area of professional practice
- a comprehensive understanding of techniques applicable to their own research or advanced scholarship
- originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline

- conceptual understanding that enables the student:
  - to evaluate critically current research and advanced scholarship in the discipline
  - to evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses

Typically, holders of the qualification will be able to:

- deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences
- demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level
- continue to advance their knowledge and understanding, and to develop new skills to a high level

And holders will have:

- the qualities and transferable skills necessary for employment requiring:
  - the exercise of initiative and personal responsibility
  - decision-making in complex and unpredictable situations
- the independent learning ability required for continuing professional development

15. Learning Outcomes

A. Knowledge and Understanding of:

A.1 The fundamental concepts, principles and theories of biology, the means of identifying organisms and biological classification, the distribution of organisms in space and time, the molecular basis of cellular structure and function, cellular systems and their integration into tissues and multicellular systems and genetics at the molecular, organism and population level.
A.2 Possess a detailed knowledge and understanding of the essential facts, concepts, principles and theories particularly in marine biology but also those of biochemistry, genetics, immunology, microbiology, molecular biology and physiology.
A.3 Be able to apply appropriate investigative and analytical methods to ecological situations and evaluate the acquired data.
A.4 Have the skills to search paper and electronic resources for biological information and be able to use the results to synthesise novel ideas.
A.5 Appreciate the importance of biology in the marine environment.
A.6 The current state of research methodologies in specified fields of marine biology.

B. Cognitive (Intellectual or Thinking) Skills, able to:

B.1 Communicate effectively both orally and in writing.
B.2 Assess the merits of competing theories, explanations or methodologies.
B.3 Analyse acquired data and determine the strength and validity of the conclusions.
B.4 Design and report the results of a series of experiments.
B.5 Formulate and test hypotheses.
B.6 Integrate and evaluate information from a variety of experimental approaches, and model the biological phenomena revealed.
B.7 Summarise and synthesise information.
B.8 Take responsibility for their own learning and develop the habit of reflecting on that learning.
B.9 Critically analyse information from a variety of sources to reach conclusions about processes in the marine environment.

C. Practical (Professional or Subject) Skills, able to:

C.1 Make and record accurate observations and use laboratory equipment correctly.
C.2 Analyse experimental results with the use, if necessary, of appropriate statistical tests.

C.3 Make effective use of software for data presentation, data analysis, and presentation of written reports and posters.
C.4 Search the scientific literature effectively and use the results to develop novel ideas.
C.5 Prepare accurate written scientific reports.
C.6 Plan and execute a series of experiments.
C.7 Understand and implement health & safety procedures necessary for professional work in laboratory and/or field situations.

D. Transferable (Graduate and Employability) Skills, able to:

D.1 Communicate ideas effectively orally, through the written word or by visual presentation.
D.2 Learn independently and effectively.
D.3 Demonstrate problem solving and critical enquiry skills.
D.4 Apply basic statistical tests and numerical skills to the analysis of biological data.
D.5 Use information and communication technology effectively.
D.6 Be able to work effectively both independently and as part of a team.
D.7 Manage time and be able to prioritise workloads.
D.8 Present experimental data and other information in an appropriate form for the target audience.
D.9 Where appropriate, gain experience from a work placement or an external study period in the UK or abroad.

16. Learning and Teaching Strategies and Methods

A broad foundation is laid at level 4 and as students progress through levels 5 and 6 they gain a more detailed and advanced knowledge of the subject. Core knowledge (Outcomes A1 & A2) is acquired through a combination of lectures, seminars, laboratory work, fieldwork, tutorials and guided independent study in years 4 and 5. Outcome A3 will be achieved in particular through practical work in the laboratory and in the field. More emphasis is placed on independent study in the final year through literature searching and extended laboratory investigations (Outcome A4). This enables the student to develop a greater degree of knowledge and understanding of the key concepts and ideas in biology (Outcome A5). During level 7 there is exposure to a range of research techniques and methods that should allow the student to demonstrate LO A6.

Intellectual skills are taught throughout the teaching and learning programme.

Communication skills (B1) are developed through written work and oral presentations. Analytical and problem-solving skills (B2, B3 & B7) are acquired through course assessments, tutorial exercises and seminars. Research and experimental design skills (B4, B5 & B6) are developed through laboratory, field and project work. Learning to apply these cognitive skills to life science issues is obtained through discussions during practical work, workshops and in tutorials. (B10) Development is also fostered by the feedback provided on all course work and also during tutorial contact (B8). At level 7 critical analysis i(LO B9) is important in the literature review and the extended research project.

Experimental skills (C1, C2, C6 & C7) are developed through formal laboratory exercises and project work. Proficiency in key technical skills (C1) is assessed by a practical test in the first year. Literature searching skills (C4) are enhanced in the final year during preparation of the dissertation and reviewing the background to project work. Information technology and computing skills (C3 & C5) are developed during the writing of laboratory and project reports and dissertations as well as presentations.

The tutorial programme is central to the development of personal and study skills (D1, D2, D5, D6, D7 & D8). Key communication skills are emphasised at level 4 through the tutorial programme and developed through feedback on written reports and presentations. Statistics and numeracy (D4) are taught formally along with problem solving skills (D3) at all levels and developed through application to data either from the literature or generated by the student during laboratory work. Team-work (D6) is developed during field courses, workshops and other group activities. All skills are further developed during level 6 where particular emphasis is given to independent learning as part of the project unit. Opportunities to gain a work placement or an external student placement (D9) are

provided between levels 5 and 6 and at level 7 and the student experience is managed via the Honours Project or Extended Research Project units by interaction with the home and external supervisors.

17. Assessment Strategy

Students' knowledge base (A1 & A2) is assessed through a combination of coursework and unseen examinations, including short answer questions, MCQs and essays. Investigative and analytical skills as well as numerical analysis are assessed through laboratory reports and data handling questions in formal assessments (A3). Essay, poster and oral presentations as well as project or dissertation reports (level 6) will assess outcome A4. Learning outcome A5 will be addressed across all marine focussed units through coursework and examinations. The student will be able to demonstrate LO A6 through their extended research report, their literature review and the workshops they attend.

Analytical and problem-solving skills (B2 & B3) are assessed through unseen examinations and course work including: short answer questions, MCQs, essays, laboratory reports, portfolio, poster and oral presentations. Experimental design, laboratory and research skills are assessed through laboratory work and reports (B3 & B4). The project/dissertation at level 6 and the extended research project at level 7 allows a student to demonstrate these skills to the highest possible level (B5, B6 & B7). Achieving outcome B8 is encouraged through the implementation of individual learning plans. Learning outcome B1 will be assessed by oral presentations and all written assessments. Critical analysis of information (LO B9) will be demonstrated by the literature review and extended research report at level 7.

Practical skills (C1 & C2) are assessed through laboratory and project reports which also assess outcome C6. Literature searching skills (C4) are assessed through reports, tutorials and presentations as part of the coursework but with emphasis on the project/dissertation at level 6 and the extended research project at level 7. The ability to analyse data scientifically (C2, C3, & C5) is assessed through reports of formal laboratory work and project/dissertation reports. Assessment of learning outcome C7 takes place formally during laboratory and fieldwork sessions during levels 4 – 6, with a summative portfolio produced during level 7.

Communication skills (D1, D6 & D8) are demonstrated by oral and poster presentations using the appropriate software (D5) given at levels 4, 5 and 6 in the units Graduate Skills 1 and tutorial programme at level 5 as well as in the Honours Project where the students are expected to participate in an presentation day open to external examiners and other invited people (D8). At levels 6 and 7 the Honours Project and the Extended Research Project allow the student to demonstrate independent learning skills (D2 & D6), acquired during levels 4 and 5 and assessed by practical reports, examinations, experimental record keeping and essay writing, with student reflection upon their learning provided by the PDP system. The level 6 project and the extended research project also provides the student with the opportunity to demonstrate their problem-solving skills (D3) that have been developed and assessed in previous years by participation in formative workshops, completing multiple-choice questionnaires, and laboratory exercises as well as examinations. The ability to work as part of a team (D6) is assessed by the student's performance in exercises designed for groups such as team laboratory work, fieldwork, poster presentations, group laboratory reports and group project work, where this is applicable. The application of statistical and numeracy skills (D4) in analysing biology data is assessed by short answer questionnaire, multiple-choice questionnaires, practical/field reports and by the final year project report. Personal development in time management and prioritising workloads is assessed via the PDP and tutorial systems, and the final year project. Learning outcome 7 are addressed by all units that have deadlines for formal assessment. Work placements and external study periods are assessed (D9) by the production of a report, were appropriate, as part of the Honours Project and Extended Research Project units.

18. Course Structure, Progression and Award Requirements

See Unit Web Search[1] for full details on the course structure and units

This is a 4-year full-time programme. Standard University rules apply. The regulations must be consulted for a full description of exit awards. To achieve an MBiol Biology degree, 480 credits must be passed with 120 credits being obtained at levels 4, 5, 6 and 7. The programme is composed of 20 credit units, a 40-credit project or dissertation unit at Level 6 and an 80-credit extended research project unit at level 7. Options can be taken in at Levels 5 and 6

Students wishing to complete their extended research project at level 7 in industry or at an external research institute need to obtain an industrial placement or an ERASMUS grant to support their study abroad, or an agreement with the supporting HEI during level 6. Such students will follow an alternative 120-credit extended research project unit at level 7, which is designed to handle students studying outside of Portsmouth. Otherwise students will be registered on the 80-credit extended research project unit and the two 20-credit units entitled '*Literature Review*' and '*Research Methodology & Technical Training*'.

19. Employability Statement

Options including a foreign language can be taken in the second year giving students the opportunity to broaden the range of employment opportunities for which they are eligible.

The University Personal Development Planning scheme is administered and developed by personal tutors through the study support skills units in the first two years. At level 6, project tutors take over this role.

Career management skills are introduced via the tutorial system and a series of workshop that develop throughout the course. Personal tutors undertake the assessment and feedback.

Embedded within the curriculum are opportunities to develop generic and subject-specific workplace skills. At level 4, basic presentation and writing skills are fostered by group and individual feedback within the tutorial system. The basic laboratory skills to be expected of a professional biologist are developed with formative feedback in a Level 4 practical unit that addresses the lack of training in this area in schools. Research careers are addressed by a presentation from staff to Level 6 students. The School Research Day focuses on the activities of our Level 6 students. Their project work is highlighted through poster presentation to which members of the local business and government community are invited. They also participate in a presentation from a local employment agency that specialises in scientific and technical careers. Individual presentations to peers more closely reflect the stressful but rewarding experience of presentation in the workplace that many of these students will soon have to undertake.

Course Management

20. Support for Student Learning

- The Course is managed by a Course Leader.
- Extensive induction programme introduces the student to the University and their course.
- Each student has a personal tutor, responsible for pastoral support and guidance.
- University support services include careers, financial advice, housing, counselling etc.
- The Academic Skills Unit (ASK).
- The Additional Support and Disability Advice Centre (ASDAC).
- Excellent library facilities.
- Student course and unit handbooks provide information about the course structure and University regulations etc.

[1] www.port.ac.uk/unitwebsearch

- Feedback is provided for all assessments
- Personal Development Planning (PDP) for all awards

21. Admissions Criteria

A. Academic Admissions Criteria

Admissions to the course will be governed by the current Academic Regulations of the University and Faculty of Science. The normal entry requirements are: A total of 136UCAS Tariff Points to include 3 A levels or equivalent, with A level biology at grade A. See undergraduate prospectus for list of other qualifications.

Student from taking the BSc (Hons) Marine Biology course may apply to transfer into this programme at level 6 provided that they have successfully completed 240 credits at level 4 and 5. Students will be considered provided that they have achieved a weighted average mark at level 4 of >65% and >65% at level 5.

B. Disability

The University makes no distinction in its admissions policy with regard to disability and will endeavour to make all reasonable adjustments in order to make it possible for students to study at Portsmouth on a course of their choice.

22. Evaluation and Enhancement of Standards and Quality in Learning and Teaching

A. Mechanisms for Review and Evaluation

- Course Leader's Annual Standards and Quality Evaluative Review.
- Head of Department's Annual Standards and Quality Evaluative Review.
- Unit and Course Level student feedback considered at Board of Studies.
- Unit Assessment Board consideration of student performance for each programme.
- Annual Standards and Quality Reports to Board of Studies, including consideration of Subject and Award External Examiner Reports.
- Periodic Programme Review.
- Student Representatives and Student/Staff Consultative Committees.
- National Student Survey.
- Staff Performance and Development Review.
- Peer Review and Development Framework.
- Faculty Learning and Teaching Committee.

B. Responsibilities for Monitoring and Evaluation

- Unit Co-ordinators for unit content and delivery.
- Course Leader for day-to-day running of course.
- Board of Studies with overall responsibilities for operation and content of course.
- Head of Department.
- Associate Dean (Academic).
- Associate Dean (Students).
- Quality Assurance Committee.
- Unit, Award and Progression Board of Examiners.

C. Mechanisms for Gaining Student Feedback

- Informally in activities that promote the mixing of students and staff (practicals, fieldwork, & workshop preparation)

- Student Representation on Board of Studies.
- Student Staff Consultative Committee.
- Unit and Course level student feedback questionnaires.
- University participates in external student surveys, e.g., National Student Survey (NSS), Postgraduate Research Experience Survey (PRES) and International Student Barometer (ISB).

D. Staff Development Priorities

- Academic staff undertake activities related to research, scholarship, teaching and learning and student support and guidance.
- Annual staff performance and development reviews match development to needs.
- Managers undertake a variety of management development programmes.
- New academic staff required to undertake appropriate University of Portsmouth learning and teaching programmes.
- All members of academic staff are encouraged to seek Higher Education Academy membership.
- Academic staff members new to teaching are required to undertake Initial Professional Development Programme (iPROF).
- Support Staff are encouraged to attend short courses in areas such as minute taking, and specific IT packages.

23. Assessment Regulations

The current University of Portsmouth academic regulations will apply to this programme (*see Assessment and Regulations*[2]).

24. Role of Externals

Subject External Examiners who will:

- Oversee unit assessment and usually attend Unit Assessment Boards
- Review unit assessment strategy
- Sample assessment artefacts
- Present report to Unit Assessment Boards

Award External Examiners (usually also a Subject External Examiner) who will:

- Oversee and attend Award/Progression Boards
- Scrutinise and endorse the outcomes of assessment
- Ensure that the standard of the award is maintained at a level comparable with that of similar awards elsewhere in the United Kingdom

25. Indicators of Standards and Quality

A. Professional Accreditation/Recognition

Accreditation will be sought from IMarEST and the Royal Society of Biology.

B. Periodic Programme Review (or equivalent)

The School of Biological Sciences had a successful Periodic Review in March 2017 which confirmed its courses were fit for purpose.

[2] www.port.ac.uk/departments/services/academicregistry/qualitymanagementdivision/assessmentandregulations/

C. Quality Assurance Agency

QAA Higher Education Review, March 2015, judgements about standards and quality meet UK expectations (*for full report see Higher Education Review of the University of Portsmouth, March 2015*[3]).

D. Teaching Excellence Framework

The Teaching Excellence Framework (TEF) is the UK Government's first assessment of teaching excellence in higher education. The University of Portsmouth has been awarded a prestigious 'Gold' TEF rating.

Further Information

Further information may be found in:

- Student Handbook
- University of Portsmouth Curriculum Framework Document
- University of Portsmouth Prospectus
- University of Portsmouth[4] and School of Biological Sciences[5] websites

[3] www.qaa.ac.uk/en/ReviewsAndReports/Documents/University%20of%20Portsmouth/University-of-Portsmouth-HER-15.pdf

[4] www.port.ac.uk/

[5] www.port.ac.uk/school-of-biological-sciences/