COURSE SPECIFICATION

BSc (Hons) Biomedical Science

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Please refer to the Course Specification Guidance Notes for guidance on completing this document.

Course Title	***BSc (Hons) Biomedical Science***
Final Award	*BSc (Hons)*
Exit Awards	*CertHE, DipHE.*
Course Code / UCAS code (if applicable)	*C0252S*
Mode of study	*Full time*
Mode of delivery	*Campus*
Normal length of course	*3 years, 4 years with placement*
Cohort(s) to which this course specification applies	*2023-24*
Awarding Body	*University of Portsmouth*
Teaching Institution	*University of Portsmouth*
Faculty	*Faculty of Science & Health*
School/Department/Subject Group	*School of Medicine, Pharmacy and Biomedical Sciences*
School/Department/Subject Group webpage	*School of Medicine, Pharmacy and Biomedical Sciences | University of Portsmouth*
Course webpage including entry criteria	*https://www.port.ac.uk/study/courses/bsc-hons-biomedical-science*
Professional and/or Statutory Regulatory Body accreditations	*Institute of Biomedical Science, Royal Society of Biology*
Quality Assurance Agency Framework for Higher Education Qualifications (FHEQ) Level	*Level 6*

This course specification provides a summary of the main features of the course, identifies the aims and learning outcomes of the course, the teaching, learning and assessment methods used by teaching staff, and the reference points used to inform the curriculum.
This information is therefore useful to potential students to help them choose the right course of study, to current students on the course and to staff teaching and administering the course.

Further detailed information on the individual modules within the course may be found in the relevant module descriptors and the Course Handbook provided to students on enrolment.

Please refer to the Course and Module Catalogue for further information on the course structure and modules.

Educational aims of the course

General Aims

- To provide a challenging, enterprising and coherent programme of study enabling graduates to understand and apply the skills, knowledge and attributes required by Biomedical Scientists.
- To develop students' critical, analytical, practical, numeracy, research and communication skills.
- To equip students with the necessary transferable skills for life-long independent learning, acquisition of knowledge and employability and to engender an awareness of the needs for these skills.
- To provide students with the skills and knowledge required to maximise career and postgraduate study opportunities.

Subject specific aims

- To develop a contemporary and scientific understanding of the causes, diagnosis and treatment of human diseases and its underpinning research by studying the main traditional pathology specialisms: histology/cytology/cellular pathology, clinical chemistry, haematology and transfusion science, clinical microbiology/virology, immunology and genetics.
- To produce graduates with an appreciation of the value an education in science affords society, the causes and consequences of social injustice and of the ethical considerations relevant to biomedical research and practise
- To provide an opportunity for students to gain knowledge, skills and experience relevant to employment (or further study) relevant to the biomedical science subject area by choosing relevant work placement/work-based learning/study options
- To understand the methods used for the scientific investigation of human health and disease and to recognise the importance of environmental sustainability within the laboratory.
- To demonstrate knowledge of human evolution, biodiversity and their impact on anatomy, physiology, biochemistry, genetics, immunology, microbiology, pharmacology, cell and molecular biology related to human health and disease.
- To demonstrate confidence, proficiency and good laboratory practise in the use of basic laboratory equipment and selected advanced laboratory techniques.
- To demonstrate an understanding of the research process including: research design and data analysis; quantitative, qualitative and mixed methods approaches to research; ethical considerations; and intellectual property issues.
- To plan, execute and present a research project which includes the analysis of data.
- To perform literature searches and critically marshal and judge information from a variety of sources in support of scientific argument hypotheses.
- To demonstrate the ability to record data accurately, integrate statistical, mathematical, IT skills and scientific knowledge in evaluating and analyzing data and information or formulating hypotheses.

Course Learning Outcomes and Learning, Teaching and Assessment Strategies

The Quality Assurance Agency for Higher Education (QAA) sets out a national framework of qualification levels, and the associated standards of achievement are found in their Framework for Higher Education Qualifications document.

The Course Learning Outcomes for this course are outlined in the tables below.

A. Knowledge and understanding of:			
LO number	**Learning outcome**	**Learning and Teaching methods**	**Assessment methods**
A1	The appropriate use of biomedical terminology and nomenclature such that complex anatomy, physiology, histology, haematology, biochemistry, genetics, immunology, microbiology and molecular biology can be related to, and reported on, human disease.	A broad foundation of knowledge is laid at stage 1. As students progress through stages 2 and 3 they gain a more detailed and advanced knowledge of the subject. Core knowledge is developed mainly via blended learning experience that includes formal lectures, directed online study, laboratory practical classes, seminars, collaborative learning, problem-based and flipped learning workshops and directed study. Theoretical knowledge is supported and applied specifically during laboratory investigations, seminars and workshops. There is also a focus on rigorous experimental and research design, data analysis, the interpretation and reporting of experimental findings thus providing students with the opportunity to apply their knowledge. All students will have an opportunity to engage with big-data and understand the principles and application of bioinformatics. All students conduct an independent, research project, a part of which involves data analysis and carrying out a literature-based interrogation of their research subject area. There is an opportunity for all students to attend a careers day hosted by the course team with presentations from a wide range of guests, including alumni, to promote a variety of careers related to Biomedical science. There is also an opportunity for students to complete a year in industry as part of the sandwich year or to follow a Work-Based Learning module at Stage 3 which will enhance the career prospects of students wishing to enter the biomedical science/biotechnology industry or pursue a higher research degree.	Assessment is by unseen examinations, in-class tests and MCQs, practical reports, case studies, oral and poster presentations, websites, microblogs, video submissions and project reports. Some assessments are by group work and others are produced by students on an individual basis. Formative assessment is included in all modules and the approach varies and includes MCQ tests both on-line and during lectures, formative tests and feedback on draft coursework. Assessment progresses from an emphasis on coursework and short answer assessments at level 4 towards fewer, more integrative and synoptic assessments at level 6.
A2	An understanding of how diseases develop, how they affect the normal function of the human body, and the interventions that can be utilised for their management.		
A3	The quantitative and qualitative evaluation of analytes employed to aid the diagnosis, screening and monitoring of health and disease.		
A4	The planning, design and performance of a research project and the awareness of the need for good laboratory practise, data analysis using appropriate statistics, health and safety and ethical considerations.		
A5	The scope of potential graduate opportunities in both academic and non-academic careers and an awareness of the skills, abilities, experience and continuous professional development/lifelong learning required to		

	maximise employment potential.		

B. Cognitive (Intellectual or Thinking) skills, able to:			
LO number	**Learning outcome**	**Learning and Teaching methods**	**Assessment methods**
B1	Formulate and test hypotheses	Intellectual skills are developed through lectures, seminars, tutorials, workshops and practical classes, which encourage integration and application of concepts and analysis. Students are supported through comprehensive online resources. These resources provide access to a range of course tailored materials that encourage students to stretch themselves academically, enabling both the consolidation of theoretical knowledge with activities that require application. Student-centred activities, such as selected case studies using clinical data, bioinformatic analysis, presentations and projects, encourage research, evaluation, synthesis and application of knowledge together with awareness of current issues. The final year research project develops skills in formulating and testing hypotheses and conducting a programme of research. Data analysis, evaluation and interpretation skills are developed through lectures, seminars and workshops and then applied via practical components of the course, including the final year research project.	Assessment is by seen and unseen examinations including data interpretation and critique, practical reports, oral and poster presentations, clinical case studies and a project report. In general, assessments are directed towards interpretation at level 4, analysis at level 5 and critical evaluation and synthesis at level 6 although students are encouraged to develop these skills throughout the course. Formative assessment is used at all levels and the approach varies including MCQ tests both on-line and during lectures, mock tests and feedback on assignment plans, laboratory and project reports, as appropriate.
B2	Plan, conduct, evaluate and report a programme of research.		
B3	Research, select, synthesise and apply information from a variety of sources, theoretical principles and practical procedures to a variety of situations.		
B4	Analyse, evaluate, interpret and integrate data in a number of formats and from a variety of sources to make evidence-based decisions.		
B5	Marshal thoughts to demonstrate an in-depth knowledge of selected topics and apply them to unfamiliar problems.		

C. Practical (Professional or Subject) skills, able to:			
LO number	**Learning outcome**	**Learning and Teaching methods**	**Assessment methods**
C1	Proficiently perform biomedical investigations in compliance with current good laboratory practise, health and safety, quality assurance and quality control guidelines.	Practical skills and the application of theory to practice is via laboratory classes, demonstrations, workshops, video, simulations and the project. Students learn the basic laboratory procedures, health and safety and the application of statistics to basic laboratory findings at level 4 and then gain more in depth practical experience at level 5. All students at level 5 have the opportunity to apply for a competitive sandwich placement either in the National Health Service or industry to further develop and apply their practical skills. At level 6, students complete their independent research project, providing a capstone experience.	Assessment is by laboratory and project reports including proficiency testing at level 4. The project supervisor's assessment of research skills is summatively assessed during the level 6 project whereas assessing student engagement and understanding of the literature and data analysis is assessed via practical reports, case studies and project report.
C2	Use laboratory equipment and conduct analytical procedures, appropriate to biomedical science, in a safe, accurate and precise manner.		
C3	Critically appraise the literature, analyse primary and secondary data and prepare referenced scientific reports.		
C4	Evaluate published claims through a variety of means to inform decisions and make judgements in an evidence-based manner.		
C5	Formulate and conduct a research investigation in accordance with ethical guidelines.		

D. Transferrable (Graduate and Employability) skills, able to:			
LO number	**Learning outcome**	**Learning and Teaching methods**	**Assessment methods**
D1	Take responsibility for the planning and execution of their own current and future learning.	Transferable skills via lectures, practical/IT classes, worked examples, subject-specific and generic tutorials, oral and poster presentations, assignments (including careers-related exercises, literature review and project) individual and group work and review of personal development.	These are assessed through a variety of summative artefacts including peer-assessed group work reports, individual reports, worksheets, microblogs, student-developed websites, video assessments and the final project thesis. Students are required to plan their research projects, identify appropriate resources and propose action plans prior to the start of their project which are subject to summative assessment. Numerical and written skills are assessed throughout the course including data interpretation and critique, practical reports, oral and poster presentations, reviews and clinical case studies.
D2	Communicate effectively using a range of media and information technology.		
D3	Demonstrate numerical and written skills appropriate to a scientist.		
D4	Work effectively both independently and as part of a team.		
D5	Identify and use appropriate resources (human and physical) to enable successful completion of a task.		

Academic Regulations

The current University of Portsmouth Academic Regulations: Examination & Assessment Regulations will apply to this course.

Support for Student Learning

The University of Portsmouth provides a comprehensive range of support services for students throughout their course, details of which are available at the MyPort student portal.

Evaluation and Enhancement of Standards and Quality in Learning and Teaching

The University of Portsmouth undertakes comprehensive monitoring, review and evaluation of courses within clearly assigned staff responsibilities. Student feedback is a key feature in these evaluations, as represented in our Policy for Listening to and Responding to the Student Voice where you can also find further information.

Reference Points

The course and outcomes have been developed taking account of:

- University of Portsmouth Curriculum Framework Specification
- University of Portsmouth Vision 2030 and Strategy 2025
- University of Portsmouth Code of Practice for Work-based and Placement Learning
- Quality Assurance Agency UK Quality Code for Higher Education
- Quality Assurance Agency Qualification Characteristic Statements

- Quality Assurance Agency Subject Benchmark Statement for ***Biomedical Sciences***
- Quality Assurance Agency Framework for Higher Education Qualifications
- Requirements of Professional and/or Statutory Regulatory Bodies: **Institute of Biomedical Science (IBMS) and the Royal Society of Biology**
- Vocational and professional experience, scholarship and research expertise of the University of Portsmouth's academic members of staff

Changes to your course/modules

The University of Portsmouth has checked the information provided in this Course Specification and will endeavour to deliver this course in keeping with this Course Specification. However, changes to the course may sometimes be required arising from annual monitoring, student feedback, and the review and update of modules and courses.

Where this activity leads to significant changes to modules and courses there will be prior consultation with students and others, wherever possible, and the University of Portsmouth will take all reasonable steps to minimise disruption to students.

It is also possible that the University of Portsmouth may not be able to offer a module or course for reasons outside of its control, for example, due to the absence of a member of staff or low student registration numbers. Where this is the case, the University of Portsmouth will endeavour to inform applicants and students as soon as possible, and where appropriate, will facilitate the transfer of affected students to another suitable course.

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