



UNIVERSITY OF  
PORTSMOUTH

# COURSE SPECIFICATION

## *BSc (Hons) Computing*

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## COURSE SPECIFICATION

<b>Course title</b>	<b><i>BSc (Hons) Computing</i></b>
Final Award	<i>BSc (Hons)</i>
Exit Awards	<i>CertHE, DipHE, BSc</i>
Course Code / UCAS code (if applicable)	U0580PYC (GG46)
Mode of study	<i>full time</i>
Mode of delivery	<i>Campus</i>
Normal length of course	<i>3 years, 4 years with placement</i>
Cohort(s) to which this course specification applies	<i>September 2023 onwards</i>
Awarding Body	<i>University of Portsmouth</i>
Teaching Institution	<i>University of Portsmouth</i>
Faculty	<i>Faculty of Technology</i>
School/Department/Subject Group	<i>School of Computing</i>
School/Department/Subject Group webpage	<a href="http://www.port.ac.uk/computing">www.port.ac.uk/computing</a>
Course webpage including entry criteria	<a href="http://www.port.ac.uk/study/courses/bsc-hons-computing">www.port.ac.uk/study/courses/bsc-hons-computing</a>
Professional and/or Statutory Regulatory Body accreditations	British Computer Society for students entering at Level 4
<a href="#">Quality Assurance Agency Framework for Higher Education Qualifications (FHEQ) Level</a>	<i>FHEQ level 4,5,6</i>

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

The course aims to equip students for employment in a diverse range of computing related professions by providing a breadth of knowledge and skills within the computer science subject area. The computing course promotes innovation and creativity, while providing a diverse experience within the computing domain. Reasons for studying computing are as diverse as the types of applications computing is used for this course takes a practical view of the discipline. In particular, the programme blends two key aspects of Computing: technical implementation (in both hardware and software) and the human factors of how humans interact with technology. These aspects are covered via core modules at each level of the course, integrated via a large, compulsory, individual project in the final year that is tailored to individual students' key interests with skills being developed via a range of optional modules.

In addition, and more generally, the course aims to:

- Provide a challenging, stimulating and self-rewarding environment to study a responsive dynamic course.
- Provide a framework whereby individual study paths may be forged based on the student's interests from a range of options and the subject of their final year project.
- Enable students to broaden their studies, at levels 5 & 6 by including modules from outside their discipline as substitutes for degree option choices such as Initial Teacher Training and languages.
- Provide a broad range of options at Levels 5 and 6 to enable students to specialise within their program of study. These include subjects such as AI, security and data science.
- Accommodate student needs in relation to maximising their career potential by enabling them to develop knowledge, understanding and skills in their chosen subject area.
- Promote career aspirations by including study topics on professional, legal and ethical practices together with employability skills, embedded throughout the curriculum.
- Provide the opportunity for students to undertake an industrial placement year with support from the Student Placement and Employability Centre.
- Provide the opportunity for students to undertake study abroad

## 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	<i>The fundamental and underlying theory of computing, computer architectures, programming, operating systems, computer networks, software systems, database systems, systems analysis and design, human computer interaction, and web authoring infrastructures in the global context.</i>	<i>Lectures, seminars, Practical sessions, group work, simulations, demonstrations.</i>	<i>Demonstrations, Reports, Presentation Portfolios, Examination, Set Exercises.</i>
A2	<i>The theory and practice of requirements analysis, specification and prototyping, implementation, testing, integration, documentation, delivery and maintenance and their roles in software development.</i>	<i>lectures, seminars, laboratory work, group work, demonstrations project work</i>	<i>Reports, Project Work, Group Work, Set Exercises, Coursework.</i>

A3	<i>The need for creativity in producing novel and robust software products.</i>	<i>practical work, group work, demonstrations project work</i>	<i>Demonstrations, Practical work, Group work and reports.</i>
A4	<i>The need for the efficient and effective management of the process for software construction within an ethical and social framework.</i>	<i>Project work, Group work, Seminars, Lectures</i>	<i>Group work, project work, and reports.</i>
A5	<i>Computer networks; usability and interaction design, together with data management via database systems, and international standards and protocols. (CI).</i>	<i>Lectures, Seminars, Practical session</i>	<i>Reports, Presentations, Group work, Examination.</i>

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

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
B1	<i>Apply an intellectual, analytical, creative problem-solving nature, and the ability to identify risks including safety aspects that may be involved in the deployment of complex computing systems within a given context.</i>	<i>Lectures, seminars, group work, practical work</i>	<i>Presentations, Examination Written, Project Work, Group Work and Set Exercises</i>
B2	<i>Demonstrate an ethical and critical awareness, which are necessary and appropriate for a reflective practitioner.</i>	<i>Lectures, Seminars, Practical Sessions</i>	<i>Project work, Project Reports, Group Work</i>
B3	<i>Develop a critical awareness of the effects upon the global society of technical and technological development and develop a self-updating sense of professional conduct in relation to society's increased dependence on technology.</i>	<i>Lecture, Seminar Practical Work, PDP</i>	<i>Set Exercise, Report, Group Work</i>
B4	<i>Plan, execute and professionally report on a major final year engineering project.</i>	<i>Lecture, Project Supervisor Meetings</i>	<i>Project Artefact Development, Project report.</i>

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

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
C1	<i>Critically evaluate and create appropriate, effective, robust and productive methods and tools for the successful construction, and timely delivery of valid computer-based systems.</i>	<i>Lectures, Seminars, Practical Work, Group Work,</i>	<i>Project Work. Group Work Presentations Demonstrations, Examinations and Set Exercises</i>
C2	<i>Use industry standard software and hardware proficiently for specific purposes in the global environment.</i>	<i>Practical Work</i>	<i>Examinations, Set Exercise, Demonstrations Reports</i>
C3	<i>Use programming skills in one or more programming environments</i>	<i>Lecture, practical sessions</i>	<i>portfolio, Set exercise (exam)</i>

C4	<i>Apply professional codes of conduct and appreciate the ethical considerations that underpin them.</i>	Lectures, Tutorials,	Set Exercises, Coursework, Examinations
C5	<i>Demonstrate experience productive capability by developing employability skills.</i>	Practical sessions	Portfolio

#### D. Transferrable (Graduate and Employability) skills, able to:

LO number	Learning outcome	Learning and Teaching methods	Assessment methods
D1	<i>Communicate effectively in writing, speaking and in appropriate forms of presentation. Read, understand and analyse complex documents related to software products and system requirements.</i>	<i>lectures, seminars, group work,</i>	<i>Portfolios, Presentations Reports, Set exercise, Examinations</i>
D2	<i>Develop a high level of competence in Information Technology - Use information technology to handle data, simulation and assist with design and testing.</i>	<i>Lectures, Seminars, Practical Work, Group Work,</i>	<i>Set exercise (exam), Project Reports, Demonstrations</i>
D3	<i>Deal with the numerical data as might be found in typical computing applications. Assess problem domains and formulate appropriate problem solving strategies.</i>	<i>Lectures, Seminars, Practical sessions</i>	<i>Written Exams, Set Exercises, Project Reports</i>
D4	<i>Build on previous experience in order to enhance personal development. Ability to work in teams to achieve goals efficiently and effectively but nevertheless be distinctively individual.</i>	<i>Seminars, Practical Session, Group work, Seminars, Lectures</i>	<i>Portfolios, Set exercise (exam), reports, Set Exercises Group Coursework, and Presentations</i>
D5	<i>Deliver appropriate outcomes in a timely fashion to a given standard</i>	<i>Practical sessions</i>	<i>Portfolio, Coursework</i>

## Academic Regulations

The current University of Portsmouth [Academic 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.

### In addition to these University support services this course also provides:

- *The Course is managed and students are supported by a Course Leader*
- *An induction programme that introduces the student to the University and their course*
- *Each student has a personal tutor, responsible for pastoral support and guidance*
- *Faculty learning Support Tutors who provide individual and group support in key areas*
- *Personal Development Planning (PDP) for all awards*
- *Several general-purpose computer laboratories and special-purpose laboratories including a Networking Lab, Big Data Lab and Cyber Security Labs.*
- *Flexible teaching and study facilities including multiple areas ideal for individual and group study*
- *A library of devices loanable to students for project work (including smart watches, tablets, sensors, smart-home devices, eye trackers) and lockers of laptops for student loan.*
- *Student support prior to, during and following placements includes Student Placement Office Centre who support placement searching and the application process, School Placement Coordinator who*

*manages placements and Placement Tutors who visit the student and provide pastoral care for the placement year.*

- Graduate employment support provided by Careers and Employability for 5 years after graduation

## 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 **Computing**
- [Quality Assurance Agency Framework for Higher Education Qualifications](#)
- Requirements of Professional and/or Statutory Regulatory Bodies: [British Computing Society](#)
- Vocational and professional experience, scholarship and research expertise of the University of Portsmouth's academic members of staff
- National Occupational Standards

## Appendix - Initial Teacher Training (ITT) Pathway

Students on the BSc (Hons) Computing programme who are interested in employment as secondary school teachers in Computer Science may request to opt-in to the course's ITT pathway. The ITT pathway combines the core of their degree programme with initial teacher training and school placements. Achievement of the standards for Qualified Teacher Status (QTS) are an essential part of the pathway.

The aims of the pathway are:

- To equip students with a rigorous knowledge and understanding of the core areas of education – professional values and practice, knowledge and understanding and teaching (including planning, expectations and target setting, monitoring and assessment, teaching and class management)
- To enable students to recognise the complex interrelationship between educational theory, policy and practice
- To enable students to apply educational and research based analysis to issues of their personal practice

- To introduce students to conceptual and analytic methods used in educational research and to provide opportunities for the development and application of these tools
- To encourage students to make a substantial contribution to the development of their subject pedagogy during the early years of their career in teaching.

The pathway consists of two modules and four school teaching placements totalling at least 120 days.

The taught modules are: Level 5 U23800 (Computing Undergraduate Ambassador) - 20 credits; Level 6 U26366 (Computer Science Teaching Placement) - 40 credits.

The school placements are as follows: Initial (taster) phase: Semester 2, Level 5 (as part of M23800); Phase 1: June/July half-term following Level 5, approx. 32-37 days; Phase 2: during Level 6 (2 days per week), approx. 50 days; Phase 3: June/July half-term following Level 6, approx. 32-37 days.

Successful completion of the course including the ITT pathway will result in two awards: BSc (Hons) Computer Science, and Qualified Teacher Status (QTS). The University makes an award of a BSc (Hons) degree dependent on a student's results in modules in accordance with the University's academic regulations. The University recommends the award of QTS based on a student's performance in the two ITT modules and on successful completion of at least 120 days of school placement; the National College for Teaching and Leadership (NCTL) awards QTS.

Support for student learning on the ITT pathway:

- The ITT pathway elements of the courses are managed by the Computer Science with ITT Pathway Tutor, based in the School of Education and Childhood studies (SECS), and overseen by the Associate Head (ITT) in SECS.
- Students are supported in school by both a subject mentor and a professional mentor who oversees the progress and well-being of all trainee teachers in their school

Students have regular timetabled tutorials with the module coordinators of the two ITT modules and with the ITT Pathway Tutor throughout each of the placement periods

## Disclaimer

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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## Document details

Author	<i>Amanda Peart</i>
Date of production and version number	<i>July 2018 [Version 1]</i>
Date of update and version number	<i>July 2023 [version 5]</i>
Minimum student registration numbers	20