



**UNIVERSITY OF
PORTSMOUTH**

COURSE SPECIFICATION

BSc (Hons) Computer Networks and Security

COURSE SPECIFICATION

Course Title	<i>BSc (Hons) Computer Networks</i>
Final Award	<i>BSc</i>
Exit Awards	<i>CertHE, DipHE,</i>
Course Code / UCAS code (if applicable)	<i>U3508PYC</i>
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 2024 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	www.port.ac.uk/computing
Course webpage including entry criteria	https://www.port.ac.uk/study/courses/undergraduate/bsc-hons-computer-networks-and-security
Professional and/or Statutory Regulatory Body accreditations	<i>CISCO Networking Academy VMware IT Academy British Computer Society (BCS)</i>
Quality Assurance Agency Framework for Higher Education Qualifications (FHEQ) Level	<i>Level 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

This course aims to equip students to work as professional engineers and consultants in the design, configuration and management of computer network solutions. The main focus is on the underlying principles and practice of computer and data networks.

The course enables students to develop both analytical and design skills across a range of subjects. This is achieved through theoretical studies alongside practical design projects, laboratory activities and group project work. Students also become conversant with industrial practice and familiar with software used to analyse and simulate computer networks. Group work projects place emphasis on teamwork, which will be a major factor in students' subsequent careers. Opportunities to develop a range of key skills also enhance students' career potential making them attractive to a wide variety of employers seeking to recruit computer networks professionals.

Developing an understanding of the business context of computer networking, related emerging technologies and applications is a further course aim. This is enhanced by the one-year sandwich placement option, with both UK and other European opportunities.

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	computer network and data communication fundamentals, computer network applications, programming and scripting for computer networks, design and use of inter- and intra-network systems and technologies (including protocols, hardware and software), security systems, operation and configuration of networked computers.	<i>lectures, seminars, laboratory work, group work</i>	<i>coursework, examinations, formative tests, mock presentations</i>
A2	mathematical methods appropriate to the analysis and design of computer networks.	<i>lectures, seminars, laboratory work, simulations</i>	<i>coursework, examinations, formative tests</i>
A3	the role of computing and simulation in the analysis and solution of problems.	<i>lectures, seminars, group work, simulations</i>	<i>coursework, examinations, formative tests</i>
A4	practical design of network-based systems.	<i>laboratory work, group work</i>	<i>coursework, peer assessments</i>
A5	the business and professional contexts of engineering and technology: commercial, legal, contractual, statutory frameworks, and ethical responsibility.	<i>lectures, seminars, group work, work placement</i>	<i>coursework, examinations, portfolio, dissertation</i>

B. Cognitive (Intellectual or Thinking) skills, able to:			
LO number	Learning outcome	Learning and Teaching methods	Assessment methods
B1	select and apply appropriate knowledge of network hardware and software principles to model and analyse computer network systems.	<i>lectures, seminars, laboratory work, group work, simulations</i>	<i>coursework, examinations, formative tests</i>
B2	select and apply appropriate mathematical methods to analyse networked systems.	<i>lectures, seminars, laboratory work</i>	<i>coursework, examinations, formative tests</i>
B3	select and apply computer-based design and simulation techniques.	<i>lectures, seminars, laboratory work, simulations</i>	<i>coursework, examinations</i>
B4	design, build and test network systems and subsystems in a systematic and manageable manner, to meet specified requirements.	<i>lectures, seminars, laboratory work, group work</i>	<i>coursework, examinations, dissertation, prototype demonstrations</i>
B5	assess computer network systems from commercial, ethical and statutory viewpoints, including assessment of risks and international considerations.	<i>lectures, seminars, laboratory work, group work</i>	<i>coursework, examinations, dissertation</i>

C. Practical (Professional or Subject) skills, able to:			
LO number	Learning outcome	Learning and Teaching methods	Assessment methods
C1	use standard and specialist laboratory instruments, network analysis tools, and computer-based simulation to conduct experiments and report on them.	<i>lectures, seminars, laboratory work, group work, simulations</i>	<i>coursework, set exercises, formative tests</i>
C2	apply relevant mathematical methods in developing solutions to problems in computer networks.	<i>lectures, seminars, laboratory work</i>	<i>coursework, examinations</i>
C3	design, configure/construct, test and evaluate computer network systems and applications.	<i>lectures, seminars, laboratory work, group work</i>	<i>coursework, examinations, dissertation</i>
C4	search a range of sources for information pertinent to technical and professional tasks.	<i>lectures, seminars, laboratory work</i>	<i>coursework, examinations</i>
C5	plan, manage and undertake a significant engineering project, taking into account constraints.	<i>lectures, seminars, laboratory work</i>	<i>dissertation</i>

D. Transferrable (Graduate and Employability) skills, able to:			
LO number	Learning outcome	Learning and Teaching methods	Assessment methods
D1	manipulate and present information and to communicate effectively in a variety of formats.	<i>lectures, seminars, laboratory work, group work</i>	<i>coursework, examinations, peer assessments, presentations</i>
D2	analyse scientific information in the solution of problems.	<i>lectures, seminars, laboratory work</i>	<i>coursework, examinations, formative tests</i>
D3	use information technology to handle text and data and for simulation and design.	<i>laboratory work, group work, simulations</i>	<i>coursework, dissertation</i>
D4	develop solutions in a creative manner, sometimes based on incomplete information and taking into consideration global perspectives.	<i>lectures, seminars, laboratory work, group work, work placement</i>	<i>coursework, dissertation, portfolio</i>
D5	work effectively as an individual and as part of a team to achieve goals.	<i>lectures, seminars, laboratory work, group work, work placement</i>	<i>coursework, examinations, portfolio</i>

Academic Regulations

The current University of Portsmouth [Academic Regulations: Examination & Assessment Regulations](#) will apply to this course. Approved course exemptions can be found [here](#).

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 benefits from excellent laboratory facilities, including a bespoke networking laboratory. The laboratory provides multi-platform network suites with a variety of vendor equipment (Cisco and HP), and a Cloud Computing facility. Students gain experience of different operating systems (Windows, Linux and Unix) as well as virtualisation environments.

The course is further supported by the School's Cisco Networking Academy and VMWare IT Academy, which facilitate students in obtaining industry-recognised Cisco and VMWare certifications in addition to their degrees.

Students also have access to the following:

- 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.
- A Personal Tutor, responsible for student pastoral support and guidance.
- A Faculty Learning Support Tutor (Computing) who provides additional subject-specific one-to-one support.

- A Faculty Student Placement and Employability Centre (SPEC) to support students in finding and applying for placements, a Placement Coordinator to manage placements for Computing students, and a Placement Tutor who visits students whilst on placement and provides additional support.

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](#)
- [Office for Students Conditions of Registration](#)
- [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 Computer Society**
- Vocational and professional experience, scholarship and research expertise of the University of Portsmouth's academic members of staff
- National Occupational Standards

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.

Copyright

The contents of this Course Specification are the copyright of the University of Portsmouth and all rights are reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, such as electronic, mechanical, photocopied, recorded or otherwise, without the prior consent of the University of Portsmouth.

Document Details	
CSD Template date	<i>January 2025</i>
Author	<i>Dr Shikun Zhou</i>
Date of production and version number	<i>Sep 2021, version 3</i>
Date of update and version number	<i>August 2023 V4</i>
Minimum student registration numbers	<i>20</i>