BIC3034-B module descriptor	
Module Title	Introduction to Computer Science and Systems
Credit Level	20 credits (RQF Level 3)
Session	2026/7 academic year
BDA occurrence	Academic Year available at University of Bradford
BDA occurrence	Non Standard Year available at University of Bradford
BDB occurrence	Non Standard Year available at University of Bradford

Transparency notice

This specification for module code BIC3034-B has been generated automatically in advance of the academic year 2026/7. Every effort has been made to ensure that the information is accurate at the time of publication, but changes permitted by our Student Contract Terms and Conditions could be made in the interval between publishing and commencement of teaching; where changes impact the terms and conditions of an applicant's or student's offer, these are communicated to them as soon as possible.

BIC3034-B module aims

This module introduces you to the different hardware components of a computer (including peripherals) and their relationship with the four basic elements of computing: input, storage, processing and output. It also provides you with a practical introduction to the use of computer systems and software to develop new products and services with a particular focus on the creative industries.

BIC3034-B module learning outcomes

No.	Students completing the module will be able to:
01	Describe terminology and theoretical concepts that underpin the discipline of computing.
02	Explain the components of a computer system and their usefulness to a programmer.
03	Describe a CPU, memory and the bus system and explain their function
04	Explain how the Linux system can be configured to meet a user’s needs.
05	Describe the different technologies available to connect computer peripherals.

BIC3034-B module outline syllabus

History
the history of computers and computing including the development of different programming languages, operating systems and the Internet.

Hardware
the hardware components of a computer (including peripheral devices), the ways in which they can be connected and their respective functions in terms of data input, storage, processing and output.

Storage and Processing
the structure and function of a central processing unit (CPU), different architecture models (Neumann-Princeton, Harvard), the bus system and different definitions and uses of memory

Programming
the foundational mathematical concepts underpinning computer science and programming, including algorithmic thinking and binary data representation.

Operating System
the function of an operating system from a programming perspective and provide an introduction to the open-source Linux system and related shell commands.

Software
different code editors used by programmers and to visualisation tools such as VirtualBox, which can be used to run different operating systems for different purposes on their hardware.

Computing Skills
the skills (technical and soft) and competencies required by professionals working in computing and in digital production across the creative industries.

Sustainability
issues linked to the environmental impact (raw materials, impact on climate change, waste management) and sustainability of the computer industry and computing.

For more information, visit the VLE (**Canvas**) page, go to our **Reading Lists webpage for this module** or search **https://bradford.rl.talis.com** for this module.

BIC3034-B module notional learning hours

- 110 hours Directed Study
- 30 hours Lectures
- 60 hours Laboratories

The overall expected hours may include contact time, scheduled learning activity, directed and independent study and any minimum expectations for placement learning. Most learning at the University of Bradford has some online content and sessions which are delivered fully by virtual means are labelled as "online".

BIC3034-B module learning, teaching and assessment

Groups are small and classes are student-centred, task-based and interactive.

The classroom approach is explicitly designed to help international students acquire new knowledge and skills, to build their confidence and enable them to become more independent learners. By doing this consistently and across all modules, the programme provides them with a strong foundation for further study in their chosen subject area.

The approach is inclusive and recognises that students come from different backgrounds with a range of previous learning experiences and associated expectations, beliefs and behaviours. Teaching and learning methods are clearly explained so students understand why (where appropriate) they need to engage in new ways of learning and why those they have used or relied on up to this point may be less suited to supporting their ongoing development and their chances of success in UK Higher Education.

Formative work is an integral part of the approach. In class, students are set tasks that require them to apply their knowledge and skills, to think critically and to solve problems. The level of challenge is gradually increased as the students grow in confidence and Tutors help them to see that experimentation, trial and error are central to the learning process, providing constructive feedback on both what has been achieved and how.

Students are also expected to engage in independent study, to reflect on their own performance and to discuss this with their module tutor or personal academic tutor, who will provide support and advice and, when necessary, draw the attention of the Academic Management Team to a struggling student using the Students of concern process.

Assessment is designed to develop students' understanding of core computing concepts alongside practical skills relevant to undergraduate computing programmes. The combination of an interim test and portfolio enables students to demonstrate both knowledge acquisition and application.

The interim test (40%) assesses Learning Outcomes 1-3 through short-answer and structured questions covering computing terminology, computer architecture, memory systems and hardware components. Students must demonstrate a sound understanding of fundamental computing concepts and their practical relevance.

The portfolio (60%) assesses Learning Outcomes 4-5 and requires students to undertake a series of practical tasks relating to Linux configuration, operating systems and peripheral technologies. Students submit evidence of practical work alongside brief reflective commentary.

Formative assessment opportunities include weekly laboratory exercises, online quizzes and tutor-led practical workshops. Students receive verbal feedback during workshops and written feedback on draft portfolio activities.

Success is demonstrated through accurate application of computing concepts, successful completion of practical tasks, and the ability to explain technical decisions clearly. The assessment design provides multiple opportunities for students to demonstrate achievement through both written and practical

activities.

To pass the module, students must achieve the University pass mark overall. Students who do not pass the first time will be given an opportunity to complete equivalent assessments that address the failed learning outcomes.

BIC3034-B mode of assessment			
Type	**Mode**	**Assessment description**	**Weight**
Summative	Examination - Closed Book	Interim test on the theory of Computer Science and Systems - LO1, LO2, LO3. (60 minutes)	40%
Summative	Coursework - Portfolio/e-portfolio	Portfolio of written tasks - LO4, LO5. (1000-1500 words)	60%

All module specification content is © 2026/7 The University of Bradford