BIC4012-B module descriptor

Module Title	Software Engineering
Credit Level	20 credits (FHEQ Level 4)
Session	2026/7 academic year
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 BIC4012-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.

BIC4012-B module aims

Provides students with a theoretical and practical introduction to Software Engineering.

Enables students to learn about the methodologies and approaches adopted in software development.

Places software development in the context of client requirements and demonstrates how these might be met.

Places such development in a wider context by introducing issues around commercial viability, sustainability, legal frameworks, ethical and safety considerations.

BIC4012-B module learning outcomes

No.	Students completing the module will be able to:
01	Demonstrate an understanding of the Software Life Cycle.
02	Explain the nature and advantages of different design, development and testing methodologies; including agile software development.
03	Explain the use of UML in software design and visualisation.
04	Analyse customer requirements and produce requirement documentation, demonstrating use of technical language and vocabulary for specialist and non-specialist audiences.
05	Outline legal and ethical issues pertinent to software development in context.

BIC4012-B module outline syllabus

Software Life Cycle: Analysis, Design, Implementation, Testing, Deployment.

Models of software development; use of SCRUM in agile software development.

Programme analysis and specifications; functional and non-functional requirements; identification of Use Cases.

Use of UML to produce static and dynamic models of a proposed software system.

Testing methodologies: Black and White Box.

System dependability; reliability, safety, security and resilience.

Working within time and cost constraints.

Team structures and version control.

Legal and ethical issues, for example, copyright, data protection, privacy, piracy, sustainability, security, environmental impact, safety.

Communication between specialist and non-specialist audiences: identifying and meeting requirements, negotiations skills, team building and working as a member of a group, building professional relationships.

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.

BIC4012-B module notional learning hours

- 100 hours Directed Study
- 20 hours Lectures
- 80 hours Practical Classes or Workshops

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".

BIC4012-B module learning, teaching and assessment

Teaching and learning on this module can be divided up in the following ways:
50 hours - Small class tuition in an interactive environment; tutor-led sessions followed by whole-class discussion or group work

10 hours - practical workshop sessions in an IT suite or computer lab

140 hours - directed learning, including class preparation, assignments, assessment preparation and independent learning.

Formative assessment takes place through the regular setting of assignments during the course, encouraging students to respond to and develop ideas and information conveyed in the classes and practical sessions. Tutors provide detailed and supportive feedback, encouraging students to reflect on their performance, their progress on the course to date and their strengths and weaknesses. The feedback and reflection are used to help students devise clearly expressed steps towards improvement.

Summative assessment consists of a coursework task set during the course with a focus on a real life problem/scenario, and an unseen examination, sat at the end of the course.

BIC4012-B mode of assessment

Type	Mode	Assessment description	Weight
Summative	Coursework - Written	Design a software solution to meet a client's needs, testing	50%
Summative	Examination - Closed Book	Covers all topics studied during the course	50%

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