

Module Details	
Module Title	Software Systems Design and Testing
Module Code	COS6028-B
Academic Year	2022/3
Credits	20
School	Department of Computer Science
FHEQ Level	FHEQ Level 6

Contact Hours	
Type	Hours
Online Lecture (Synchronous)	12
Laboratories	24
Directed Study	164

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 2

Module Aims
To develop understanding of design, implementation and testing methods in the context of software engineering. Have experience of a variety of aspects of software engineering through the development of a software program. To examine the role of validation methods in software engineering and provide a detailed study of widely-used software testing methods and their application to validate requirements of software systems.

Outline Syllabus
Principles of software engineering; systematic approaches to developing software design; software design architectures; contemporary challenges in software design; design for re-use; modularity and integration; software testing approaches; large scale integration testing; unit testing using basic methods such as code coverage, condition coverage; testing methods: regression, input data partitioning, mutation; system testing.

Learning Outcomes	
Outcome Number	Description
01	Have experience of practical software development with regard to project management, software processes and technical accomplishment.
02	Demonstrate the understanding of practical challenges associated with the development of a significant software system.
03	Demonstrate the ability to use testing methods appropriate in finding errors in different stages of the software development life cycle.

Learning, Teaching and Assessment Strategy
The delivery of the module will consist of directed reading, lectures to expand upon key points in the reading and lab sessions where practical problems are discussed and solved. The coursework will assess the students' understanding of the theoretical concepts, technical and practical skills required by the module, and evaluate their ability to apply these technical skills to the design, development and testing of software systems.

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Coursework - Artefact	Intermediate Software and Project management artefacts, including report	40%
Summative	Coursework - Artefact	Final Software deliverable and project management artefacts, including report	60%

Reading List
To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:

This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.