

Module Details	
Module Title:	Software Verification and Testing
Module Code:	COS6027-B
Academic Year:	2019-20
Credit Rating:	20
School:	Department of Computer Science
Subject Area:	Computer Science
FHEQ Level:	FHEQ Level 6
Pre-requisites:	
Co-requisites:	

Contact Hours	
Type	Hours
Lectures	24
Laboratory	24
Directed Study	152

Availability	
Occurrence	Location / Period
NLA	Namal College / Semester 2 (Feb - May)
BDA	University of Bradford / Semester 2 (Feb - May)

Module Aims
To examine the role of validation methods in software engineering and provide a detailed study of a widely-used software verification and testing methods and their application to specify, verify and validate requirements of software systems and programmes.

Outline Syllabus
- Unit testing using basic methods such as code coverage, condition coverage - Testing methods: regression, input data partitioning, mutation; system testing - Formal specification languages and their use in system requirements. - Model checking for automatic verification of reactive systems.

- Programme verification for analysing and checking the correctness of programmes.

Learning Outcomes

1	Demonstrate the ability to use testing methods appropriate in finding errors in different stages of the software development life cycle.
2	Specify and verify requirements of software systems; analyse the correctness of reactive systems and programmes.
3	Compare and evaluate different formal verification techniques according to their applicability to different systems.

Learning, Teaching and Assessment Strategy

The delivery of the module will consist of directed reading, lectures to expand upon key points in the reading, lab sessions and tutorials where practical problems are introduced and solved.

The examination assesses students' understanding of the theoretical concepts, technical and practical skills required by the module, while the coursework assesses their ability to apply these technical skills to model and analyse software systems using some tools.

Mode of Assessment

Type	Method	Description	Length	Weighting
Summative	Examination - closed book	Exam	2 hours	50%
Referral	Examination - closed book	Supplementary exam	3 hours	100%
Summative	Coursework	Analysing a case study		50%

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.