UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title:	Software Design and Development
Module Code:	COS4017-B
Academic Year:	2019-20
Credit Rating:	20
School:	Department of Computer Science
Subject Area:	Computer Science
FHEQ Level:	FHEQ Level 4
Pre-requisites:	
Co-requisites:	

Contact Hours	
Type	**Hours**
Lectures	24
Laboratory	44
Directed Study	132

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

Module Aims

To introduce object orientation (OO) in the context of software analysis and design and relate them to OO programming concepts.
To further develop theoretical understanding and practical skills for developing software. To introduce basic software engineering principles of software project management

Outline Syllabus

1. Object oriented analysis and design 2. Software Development methodologies 3. Facets of software design 4. Software testing 5. Software Architecture

Learning Outcomes	
1	a. discuss and apply fundamental theoretical concepts in software project development; b. use basic principles of software design and express aspects of design in an appropriate modelling language;
2	a. apply advanced object oriented analysis, design and programming concepts to construct reliable software; b. interpret and utilise software designs expressed in an appropriate modelling language.
3	a. apply skills of research, problem-solving project management and communication to express solutions by applying software design and development to examples.

Learning, Teaching and Assessment Strategy

Learning outcomes are developed through lecture and lab sessions. These sessions will introduce specific design notations related to OO concepts, such as UML, as well as basic software engineering methods and techniques utilised in complex software project development. There will be emphasis on intermediate to advanced level of Java programming language and making link between OO concepts and programming in Java. The assessment of part (a) will take the form of classroom tests requiring an understanding of key programming concepts and basic OO notations utilised in software analysis and design. Part (b) will be assessed through a software project, including programming, testing and documentation. Directed study includes reading activities, individual exercises and revision of concepts taught in the teaching sessions, and individual reading and application of documentation and programming examples from technical reports and book sections.

Mode of Assessment

Type	Method	Description	Length	Weighting
Summative	Coursework	Group project including coding, testing and documentation		70%
Summative	Computer-based assessment	Computer-based class programming test	2 hours	30%

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.