

BSHC11: Introduction to Software Engineering

Module Code:	BSHC11
Long Title	Introduction to Software Engineering APPROVED
Title	Introduction to Software Engineering
Module Level:	LEVEL 6
EQF Level:	5
EHEA Level:	Short Cycle
Credits:	5
Module Coordinator:	ANTHONY PAUL STYNES
Module Author:	ANTHONY PAUL STYNES
Departments:	
Specifications of the qualifications and experience required of staff	
Learning Outcomes	
<i>On successful completion of this module the learner will be able to:</i>	
#	Learning Outcome Description
LO1	LO 1. Describe the theory, concepts and methods pertaining to system analysis and design
LO2	LO 2. Explain the fundamental methods and techniques of systems analysis.
LO3	LO 3. Apply skills and techniques for developing Requirements Specifications
LO4	LO 4. Develop the architecture and design of software systems
LO5	LO 5. Demonstrate the testing of software programs
LO6	LO 6. Independently and creatively demonstrate the technical skills of system analysis and design.
Dependencies	
Module Recommendations	
No recommendations listed	
Co-requisite Modules	
No Co-requisite modules listed	
Entry requirements	

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Module Content & Assessment			
Indicative Content			
Introduction to Software Engineering (5%) • Principles of Software Engineering • Software Product • Software Applications			
Computer Aided Software Engineering (5%) • CASE tools			
Software Process (10%) • System Development Lifecycle • Incremental Process • Iterative Process • Spiral • Prototype			
Requirements Specification (10%) • Requirements Engineering • Functional Requirements • Non-Functional requirements • Types of requirements • Characteristics of requirements • Requirements measures			
Bridging analysis to design (10%) • Requirement specification • Structured Natural Language specification • Requirements document • Requirements validation			
Systems Analysis Techniques (20%) • Structured English • Decision Tables • Data Flow Diagrams • Data Dictionaries			
Architecture (10%) • Interfaces • Data • Architectural design • Architectural styles • Service Oriented Architecture • Architectural attributes • Architectural structuring • Control Modelling • Modular decomposition			
Structured Design (10%) • Structured charts • Transform analysis • Afferent • Efferent • Central Transform			
Product Implementation and Testing (10%) • Software Testing Techniques • Black box testing • White box testing • Basis path testing • Cyclomatic complexity			
Software Testing Strategies (10%) • Unit test • System test • Integration test • Validation • Debugging			
Teaching methodology: The learning strategy involves the use of lectures and assessments involving tutorials, mid-term exam and a project. Students will also have access to web based support.			
Assessment Breakdown			%
Coursework			40.00%
End of Module Assessment			60.00%
Assessments			
Full Time			
Coursework			
Assessment Type:	Assignment	% of total:	40
Assessment Date:	n/a	Outcome addressed:	1,2,3,4,5,6
Non-Marked:	No		
Assessment Description:	n/a		
End of Module Assessment			
Assessment Type:	Terminal Exam	% of total:	60
Assessment Date:	End-of-Semester	Outcome addressed:	
Non-Marked:	No		
Assessment Description:	End-of-Semester Final Examination		
No Workplace Assessment			

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Module Workload				
Module Target Workload Hours 0 Hours				
Workload: Full Time				
Workload Type	Workload Description	Hours	Frequency	Average Weekly Learner Workload
Lecture	No Description	2	Every Week	2.00
Tutorial	No Description	1	Every Week	1.00
Total Weekly Contact Hours				3.00
Workload: Part Time				
Workload Type	Workload Description	Hours	Frequency	Average Weekly Learner Workload
Lecture	No Description	2	Every Week	2.00
Total Weekly Contact Hours				2.00

Module Resources	
<i>Recommended Book Resources</i>	
Pressman, R. (2009),) Software Engineering: A Practitioner's Approach,, 7th ed. ., McGraw Hill.	
<i>Supplementary Book Resources</i>	
Summerville, I. (2006), Software Engineering, 8th ed. , Addison-Wesley..	
Lejk, M., Deeks, D.,. (2002),), An introduction to Systems Analysis Techniques,, 2nd ed. ., Addison-Wesley..	
<i>This module does not have any article/paper resources</i>	
<i>This module does not have any other resources</i>	
Discussion Note:	