AMITY GLOBAL INSTITUTE

Module Syllabus

Course	**BACHELOR OF SCIENCE (HONOURS) COMPUTING (UNIVERSITY OF NORTHAMPTON)**
Module Title	Software Engineering 1
Module Syllabus no. (if any)	CSY1019
Year Offered	2018
Start Date	February 2018 / September 2018
End Date	January 2019 / August 2019
Syllabus / Content / Learning Outcomes	On successful completion of the module students will be able to: Knowledge and Understanding a) have a satisfactory awareness of the principles underlying the object oriented approach to developing software systems; b) know how Object Oriented techniques help in the development of correct, robust and reliable software systems. Subject specific skills On successful completion of the module students will have demonstrated their ability to: c) demonstrate fundamental issues of the object-oriented approach; d) be capable of taking a simple problem solution design and implementing a solution; e) devise elementary test data for testing software. Key Skills On successful completion of the module students will have had the opportunity to: f) Self management: organise and start to develop a stylised approach; g) Problem solving: apply a limited range of software implementation methods; h) Use of IT: create working software-based solutions.
No of teaching hours	24 x 1 hr lectures = 24 24 x 1 hr supervised laboratory = 24 Tutorial and skills development = 36 Unsupervised laboratory = 66 2 x Time-constrained assessment/practical + revision = 50 TOTAL = 200
Teaching Methods	Lectures, tutorials, case-studies analysis, research journals and group discussion.
Assessment Methods and Weightages	TC1 - Time-constrained practical (2 hours) = 50% TC2 - Time-constrained assessment (2 hours) = 50%
Skills for maximising learning outcomes	Reading and Research
Dates of examinations, major assessments and assignments	Please refer NILE at: https://nile.northampton.ac.uk
Recommended text	The module will be delivered as a combination of lectures and practical sessions. Lectures will introduce the key topics and their conceptual basis. Practical exercises will be used to reinforce learning of the practical aspects of the module James Woodcock - Formal Aspect of Computing - Springer

Additional reference texts (if any)	
Additional Remarks (if any)	

Lesson No.	Learning Outcome
1	The Integrated Development Environment
2	WPF Solution Explorer, Toolbox, Properties, Design view, Code View
3	I/O, Buttons, Labels, Textboxes, Menus, XAML, Files, .cs, Assemblies, using, namespace, Debugger
4	Software program, statement, variable, naming convention, operator, objects, properties, methods, parameters, comments, Statements
5	Identifiers, keywords; variables; primitive data types
6	Arithmetic operators
7	Precedence, increment/decrement variables, applying scope
8	Control Flow; Boolean, selection (if, switch),
9	Iteration, stream, validation.
10	Object Technology; Class statement, Class level variables, Method, Dot notation, String, Creating & managing classes & objects
11	Info -> fields, operations -> methods. Classification, encapsulation
12	Class definition, accessibility (public, private),
13	Object creation (new), constructors, Class diagrams
14	Static data/methods, Overloading constructors, partial classes
15	Serialisation, Inheritance, Polymorphism, Typing and binding, Interfaces (Abstract classes).
16	Data Structures · Introduction to arrays, stacks, queues, linked lists