

 SLIIT <i>Discover Your Future</i>	DEPARTMENT OF INFORMATION TECHNOLOGY		
	FACULTY OF COMPUTING		

MODULE OUTLINE			
Module Name	Modern Topics in IT		
Module Code	IT4020	Version No.	2017 - 1
Year/Level	4	Semester	1
Credit Points	4		
Pre-requisites	IT1100, IT2020, IT2030		
Co-requisites	None		
Methods of Delivery	Lectures (Face-to-face)	2	Hours/Week
	Tutorials	1	Hours/Week
	Labs	2	Hours/Week
Course Web Site	http://courseweb.sliit.lk/		
Date of Original Approval	January, 2017		
Date of Next Review	January, 2022		

MODULE DESCRIPTION		
Introduction	The objective of this module is to provide an understanding and a working knowledge of the current topics, trends and technologies in the Information Technology Industry. After following this module, the students should be able to apply the concepts, frameworks and technologies learnt throughout the module to effectively solve real-world problems.	
Learning Outcomes	At the end of the module student will be able to:	
	LO1:	Apply the knowledge they have obtained on the modern development tools, frameworks and technologies in application development.
	LO2:	Justify the usage of software engineering concepts when developing an application
	LO3:	Apply latest concepts used in designing, deployment and maintenance of IT in fracture

	LO4:	Justify ecologies selected for a given requirement.		
	LO5:	Apply different development architecture for large scale development		
Assessment Criteria	Since this module is an applied module, the continuous assessments will be based entirely on programming assignments and lab assignments. The final exam will test the students on the theoretical concepts taught during the lectures.			
	Continuous Assessments			
	• Assignments	50	%	LO1- LO5
	End Semester Assessment			
	• Final Examination	50	%	LO1 – LO5
	TOTAL	100	%	
Estimated Student Workload	Contact Hours			
	• Lecture	26 hours		
	• Tutorial	13 hours		
	• Laboratory	26 hours		
	Time Allocated for Assessments			
	• Continuous Assessments	30 hours		
	• Final Examination	02 hours		
	Reading and Independent Study	103 hours		
	TOTAL	200 hours		
Module Requirement	To pass this module, students need to obtain a pass mark of 45% (“C” grade), in each “Continuous Assessments” and “End of the Semester Examination” components.			
Primary References	1. Gregor Hohpe, Enterprise Integration Patterns, 1st Ed., Addison-Wesley Longman Publishing Co., 2003			
	2. Ramnivas Laddad, AspectJ in Action, 2nd Ed., 2009			
	3. Sam Newman , Building Microservices: Designing Fine-Grained Systems 1st Ed ., 2014			
	4. Elizabeth Hull, Jeremy Dick, and Ken Jackson, Requirements Engineering , 3rd Ed, 2011			

CONTENT OF THE MODULE	
Topic	Learning Outcomes Covered
1. Code Refactoring Techniques <ul style="list-style-type: none"> • Refactor for coding conventions • Property/XML Manipulations • Usage of Generics 	LO2
2. Modular Development <ul style="list-style-type: none"> • Open Service Gateway Initiatives (Apache Felix / OSGi Equinox) 	LO2
3. Lambda Expressions and Functional Programming <ul style="list-style-type: none"> • Anonymous classes • Functional Interfaces • Method References • Benefits of Lambda Expressions 	LO2
4. Augmented Reality Session I <ul style="list-style-type: none"> • Augmented/Virtual and reality mixing • Marker-based/Marker-less AR • Tools, Techniques and Approaches 	LO1, LO3, LO4
5. Augmented Reality Session II <ul style="list-style-type: none"> • Tracking system classification (Eg:- SLAM)/Real world scaling • Sensor support and component classification • Research Areas in AR 	LO1, LO3, LO4
6. Micro Services Session I <ul style="list-style-type: none"> • Evolution from Monoliths to Microservices • Core principles of Microservices • Integrating Microservices • Implementing Microservices (Lab Session - I) 	LO1, LO2, LO3, LO5
7. Micro Services Session II <ul style="list-style-type: none"> • Securing Microservices • Microservices at Scale • Implementing Microservices (Lab Session - II) • Best Practices and Common Principles 	LO1, LO2, LO3, LO5

8. Cloud Computing Session I <ul style="list-style-type: none"> • Introduction to Cloud Computing • Cloud Computing Models • Introduction to Amazon Web Services 	LO1, LO2, LO3, LO5
9. Cloud Computing Session II <ul style="list-style-type: none"> • Amazon Web Services Cloud Platform 	LO1, LO3, LO5

GENERIC INFORMATION

Any type of plagiarism is not allowed.

Plagiarism: Academic honesty is crucial to a student's credibility and self-esteem, and ultimately reflects the values and morals of the Institute as whole. A student may work together with one or a group of students discussing assignment content, identifying relevant references, and debating issues relevant to the subject. Plagiarism occurs when the work of another person, or persons, is used and presented as one's own.

-----End of Module Outline-----