SLIIT Discover Your Future	DEPARTMENT OF INFORMATION TECHNOLOGY FACULTY OF COMPUTING

MODULE OUTLINE			
Module Name	**Mobile Application Design and Development (MADD)**		
Module Code	IT2010	Version No.	2018 - 2
Year	2	Semester	2
Credit Points	04		
Pre-requisites	None		
Co-requisites	None		
Methods of Delivery	Lectures (Face-to-face) Tutorials Labs	1 Hour/Week 2 Hours/Week 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 module covers the fundamental concepts of mobile application development and how they are applied using mobile technologies. The module introduces students to different features of mobile applications and the platforms. Further, the module provides in-depth knowledge of Android technologies and enables student to develop a mobile application to cater real world requirements.
Learning Outcomes	At the end of the module student will be able to: **LO1:** Explain different mobile platforms and related technologies. **LO2**: Identify mobile user requirements and develop Android applications to cater the user requirements **LO4**: Analyze the usability aspects of mobile applications using standard UI evaluation techniques. **LO5**: Discuss Security aspects of mobile application development.

Assessment semester there	During the semester, there will be a mid-term test and a mini project. At the end of the will be a a comprehensive practical exam. The distribution of marks for the assessed components of the module are as follows:			
	Continuous Assessments			
	• Online Quiz	20	%	LO1, LO3-LO5
	• Mini Project	30	%	LO2-LO5
	End Semester Assessment			
	• Final Examination	50	%	LO1-LO3, LO5
	TOTAL	100	%	
Estimated Student Workload	Contact Hours			
	• Lecture	13 hours		
	• Tutorial	26 hours		
	• Laboratory	26 hours		
	Time Allocated for Assessments			
	• Continuous Assessments	70 hours		
	• Final Examination	02 hours		
	Reading and Independent Study	63 hours		
	TOTAL	200 hours		
Module	To pass this module, students need to obtain an overall mark that would qualify for a "C" grade or above.			
Primary References	1. N. Smyth, Android Studio 2 Development Essentials, 2nd edition, 2016.			
	2. J. Horton, Android Programming for Beginners, Packt Publishing Ltd, 2015.			
	3. Bill Phillips and Brian Hardy, Android Programming: The Big Nerd Ranch Guide, 1st edition, 2013.			
	4. Dawn Griffiths, Head First Android Development: A Brain-Friendly Guide, 2nd Edition, 2017			

CONTENTS OF THE MODULE	
1. Mobile Mindset • Features of mobile Applications • Requirement for mobile app development • User behaviors of mobile applications • Introduction to mobile devices	LO1, LO3

2. Mobile Platforms and Application Development fundamentals • Native mobile operating systems (Android, IOS, Windows) • Cross Platform mobile platforms • Fundamentals of mobile Application Development	LO1, LO3 - LO5
3. Introduction to Android Operating System • Android System overview • Android Application Development Life cycle • Application architecture • Files (manifest.xml, string, styles) • Activity Life Cycle	LO1 –LO3
4. Mobile Interface Design Concepts and UI/UX Design Fundamentals • Principles of Mobile User Interfaces • Principles of UI components • Mobile UI design frameworks • Mobile UI Evaluation	LO1 - LO5
5. Main Components of Android Application • Activities • Intents • Broadcast Receivers • Activity Manager • Content Providers • Services	LO3 - LO5
6. Data Handling in Mobile Platforms • Persistence Techniques in Android Applications • Handling SQLite Databases in Android	LO3 - LO5
7. Handling Media in Android Applications • Playing Audio / Visual Content • Image Handling Process • Mobile Camera Handling	LO2, LO4, LO5
8. Sensors in Android • Sensors Overview • Motion sensors • Environmental sensors • Position sensors	LO1, LO2, LO4, LO5

9. Security Aspects of Mobile Application development • Mobile application security best practice • Mobile application security issues • Securing mobile application	LO1 - LO5
10. Android Services • Web services • HTTP client • XML and JSON	LO1 - LO3

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----------