Course Specifications

Course Title:	Web and Mobile Programming
Course Code:	**ICS 322**
Program:	**Information and Computer Science**
Department:	**Computer Science and Information**
College:	**Science Az Al-Zulfi**
Institution:	**Majmaah University**

Table of Contents

A. Course Identification

1. Credit hours:3
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered **7th Level**
4. Pre-requisites for this course (if any)**:** Object-Oriented Programming - ICS 211
5. Co-requisites for this course (if any)**:Nil**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	48	80%
2	**Blended**	6	10%
3	**E-learning**	6	10%
4	**Correspondence**	-	-
5	**Other**	-	-

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	
4	**Others** (specify)	
	Total	60
Other Learning Hours*		
1	**Study**	30
2	**Assignments**	30
3	**Library**	
4	**Projects/Research Essays/Theses**	10
5	**Others** (specify)	30
	Total	100

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course provides an introduction of you'll learn how to build HTML5 and CSS3-based apps that access geolocation, accelerometer, multi-touch screens, offline storage, and other features in today's smartphones, tablets, and feature phones.
Also this course provides how to develop a standard app core that you can extend to work with

specific devices. This course covers many recent advances in mobile development, including responsive web design techniques, offline storage, mobile design patterns, and new mobile browsers, platforms, and hardware APIs and this course provides an introduction of web-development techniques that use HTML, CSS and JavaScript as a web development essentials including database connectivity (JDBC), Basics of PHP, Basics of Java for Web Development and Basics of Asp.Net as an advanced technique of web programming

2. Course Main Objective

Learn the particulars and pitfalls of building mobile websites and apps with HTML5, CSS, JavaScript and responsive techniques
Create effective user interfaces for touch devices and different resolution displays
Understand variations among IOS, Android, Windows Phone, BlackBerry, Firefox OS, and other mobile platforms
Build to browsers and online retailers such as the App Store, Google Play Store, Windows Store, and App World
The students shall use technologies such as web servers, databases (integrated collections of data), PHP, ASP.NET, to build the server side of web-based applications.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge:**	
1.1	Recognize the particulars and pitfalls of building mobile websites and apps with HTML5, CSS, JavaScript and responsive techniques	K1
1.2	Understand variations among IOS, Android, Windows Phone, BlackBerry, Firefox OS, and other mobile platforms	K2
2	**Skills :**	
2.1	By mastering the technologies in these courses, students will be able to build substantial web based, client/server, database-intensive, "multitier" applications.	S1
2.2	Design, implement effective user interfaces for touch devices and different resolution displays	S2
3	**Competence:**	
3.1	Appraise the role of security and performance in Android applications	C3-CS

C. Course Content

No	List of Topics	Contact Hours
1	Internet Fundamentals: addressing, routing, and servers.	4
2	Introduction to web development	4
3	Introduction to HTML	4
4	Working with Cascade Style Sheets - CSS	4
5	Introduction to XML	4
6	Introduction to Scripting language	4
7	Working with Client side Script language - JavaScript	4
8	Working with Server side script language – PHP and ASP	8

9	Get started, Build your first app, Activities, Testing, debugging and using support libraries	4
10	User Interaction, Delightful user experience, Testing your UI	4
11	Background Tasks, Triggering, scheduling and optimizing background tasks	4
12	All about data, Preferences and Settings, Storing data using SQLite, Sharing data with content providers, Loading data using Loaders	4
13	Permissions, Performance and Security, Firebase and Ad Mob, Publish	4
14	Power Management, Augmented Reality, Mobile Device Security	4
Total		60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge**		
1.1	Identify options to save persistent application data	Lectures Lab demonstrations Case studies Individual presentations	Written Exam Homework assignments Lab assignments Class Activities Quizzes
1.2	Learn to setup Android application development environment		
2.0	**Skills**		
2.1	Illustrate user interfaces for interacting with apps and triggering actions	Lectures Lab demonstrations Case studies Individual presentations Brainstorming	Written Exam Homework assignments Lab assignments Class Activities Quizzes Observations
2.4	Interpret tasks used in handling multiple activities		
3.0	**Competence**		
3.1	Appraise the role of security and performance in Android applications	Small group discussion Whole group discussion Brainstorming Presentation	Written Exam Homework assignments Lab assignments Class Activities Quizzes

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	First written mid-term exam	6	15%

#	Assessment task*	Week Due	Percentage of Total Assessment Score
2	Second written mid-term exam	12	15%
3	Presentation, class activities, and group discussion	Every week	10%
4	Homework assignments	After each chapter	10%
5	Implementation of presented protocols	Every two weeks	10%
6	Final written exam	16	40%
7	Total		100%

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :
Office hours: Sun: 10-12, Mon. 10-12, Wed. 10-12
Email: m.wagieh@mu.edu.sa

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Google Developer Training Team, Google Developer Training, "Android Developer Fundamental, Prentice Hall, 2016.
Essential References Materials	-Android Programming – Pushing the Limit, Erik Hellman, Wiley,2013
Electronic Materials	https://www.gitbook.com/book/google-developer-training/android-developer-fundamentals-course-practicals/details
Other Learning Materials	-

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom and Labs as that available at college of science at AzZulfi are enough.

Item	Resources
Technology Resources (AV, data show, Smart Board, software, etc.)	Smart Board
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	N/A

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Questionnaires (course evaluation) achieved by the students and it is electronically organized by the university.	Students	Indirect
Student-faculty management meetings.	Program Leaders	Direct
Discussion within the staff members teaching the course	Peer Reviewer	Direct
Departmental internal review of the course.	Peer Reviewer	Direct
Reviewing the final exam questions and a sample of the answers of the students by others.	Peer Reviewer	Direct
Visiting the other institutions that introduce the same course one time per semester.	Faculty	Indirect

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	