



Course Specifications

Course Title:	Wireless & Mobile Computing
Course Code:	CSI 531
Program:	Computer Science and Information Technology
Department:	Computer science and Information
College:	College of Science at Al Zulfi
Institution:	Al- Majmaah University

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A. Course Identification

1. Credit hours:
2. Course type
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input type="checkbox"/> Elective <input checked="" type="checkbox"/>
3. Level/year at which this course is offered: Level 7
4. Pre-requisites for this course (if any): CSI 322 Computer Networks
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	44	80 %
2	Blended	6	10 %
3	E-learning	--	--
4	Distance learning	--	--
5	Other	6	10 %

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	30
2	Laboratory/Studio	30
3	Tutorial	--
4	Others (specify)	--
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

This course will examine the area of wireless networking and mobile computing, looking at the unique network protocol challenges and opportunities presented by wireless communications and host or router mobility. The course will give a brief overview of fundamental concepts in mobile wireless systems and mobile computing, it will then cover system and standards issues including wireless LANs, mobile IP, ad-hoc networks, sensor networks, as well as issues associated with small handheld portable devices and new applications that can exploit mobility and location information. This is followed by several topical studies around recent research publications in mobile computing and wireless networking field.

2. Course Main Objective

- Using group discussion through the internet with course attending students.
- Updating the materials of the course to cover the new topics of the field.
- Increasing the ability of the students to design and implement different network



configuration that are presented in the course.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	Recognize the need for and an ability to engage in continuing professional development.	k2
2	Skills :	
2.1	Design, implement, develop and evaluate complicated computer-based system, process component, or program to meet desired needs.	S2
2.2	Identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer based systems.	S4
3	Values:	
3.1	Communicate effectively with a range of audiences.	C5

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to wireless networks	8
2	Radio propagation	8
3	Cellular concept	8
4	Multiple radio access	8
5	Mobile communication system	4
6	Ad hoc network	4
7	Vehicular networks	4
8	Sensor networks	4
9	Wireless LAN	8
10	IEEE 802.22 white space and cognitive radio	
Total		

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 and Understanding		
1.1	Recognize the need for and an ability to engage in continuing professional development.	Lectures Lab demonstrations Case studies Individual presentations	Written Exam Homework assignments Class & lab Activities Quizzes
2.0	Skills		
2.1	Design, implement, develop and evaluate complicated computer-based system, process component, or program to meet desired needs.	Group discussions, Brainstorming Presentations	- Lab Exercises - Lab Exam - Oral Exam - Presentations

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.2	Identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer based systems.		
3.0	Values		
3.1	Communicate effectively with a range of audiences.	Course Project: (Work group) critical thinking and ability to seek solution	Introduce group project and case study approaches to enable students to have an experience in problem solving situations.

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz 1 & 2	3 & 8	5 %
2	First written mid-term exam	6	10%
3	Second written mid-term exam	12	10%
4	Class activities, group discussions, Presentation	Every week	10%
5	Attendance and participation	Every week	5%
6	Homework + Assignments	After every chapter	10%
7	Final Lab	12	10%
8	Final written exam	16	40%

*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 :

- Determine meeting appointments for the weak' students to solve their problems and give them academic advices.
- office hour daily
- One Dealing a workshops.
- Motivate students

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Mohsen Guizani, “ Wireless Networks and Mobile Computing ”, Wiley Communications Technology Online ISSN: 1530-8677
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Essential References Materials	Introduction to Wireless and Mobile Systems , 3rd Edition, Dharma P. Agrawal and Qing-An Zeng, ISBN-10: 1439062056, ISBN-13: 9781439062050
Electronic Materials	<ul style="list-style-type: none"> • Video and presentation are available in course page
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom - Laboratory
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show – Smart Board
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	CloudGoogle App. Cloud Amazon App.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students Classroom Observation Committee Professional Development Unit External Reviewers – accreditation committee	Formal Classroom Observation - Direct Student Surveys - Indirect
Effectiveness of Assessment	Curriculum and Test Development Unit Curriculum Committee Assessment Committee External Reviewers	Faculty Feedback - indirect Student Feedback – indirect Course Reports
Extent of Achievement of Course Learning Outcomes	Quality Assurance Unit Curriculum and Test Development Unit	Course Reports Annual Program Review

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	

