Course name: CENG 519-Adv. Wireless Communication Networks				Department: Computer Engineering			
Semester	**Methods of Education**						**Credit (ECTS)**
	Lecture	**Recitation**	**Lab**	**Project (F. Study)**	**HomeW**	**Others**	**Total**	

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1	42	40	0	80	40	23	225	7,5

Language	English
Comp. or Elective	
Prerequisites	Computer Networks
Course Contents	- Wireless networking challenges - Wireless communication overview - Cellular wireless networks - 2G, 2.5G, 3G and 4G cellular networks - Mobile ad hoc networks (MANET) - Wireless personal area networks (Bluetooth, UWB, ZigBee) - Wireless MAC concepts - Overview of cellular standards and WiMax (802.16) - Overview of wireless MAC protocols including 802.11 - Advanced topics, like mesh and vehicular networks, sensor networks
Course Objectives	- Teaching the fundamental ideas behind the wireless networks - Discuss widely used wireless MAC protocols - Learn the technical issues and state-of-the-art techniques in the operation and management of wireless communications networks - Enlighten students with the current research trends in wireless communication networks
Learning Outcomes and Competences	- Understand the essential concepts and ideas used in wireless communication networks - Understand network architectures and functionality of cellular networks and ad hoc networks - Understand state of the art wireless technologies for personal, local and satellite networks - Understand the impact of wireless revolution in a global, economic, environmental, and societal context
Textbook and/or References	1. Wireless Communications and Networks, William Stallings, 2nd ed., 2005 2. Wireless Communications & Networking, Vijay Garg, Morgan Kaufmann, 2007

Assessment Criteria		**If any, mark as (X)**	**Percentage (%)**
	Midterm Exams	X	20
	Quizzes	X	10
	Homeworks	X	5
	Projects	X	10
	Term Paper		
	Laboratory work	X	10
	Other(Class Participation)	X	5
	Final Exam	X	40

Instructors	Assist. Prof. Dr. Ali Tufail

Week	**Subject**
1	Introduction and overview of wireless communications
2	1G and 2G cellular networks
3	2.5G and 3G networks
4	4G cellular networks and wireless personel and local area networks
5	Wireless networks and OSI
6	WLAN
7	Midterm
8	WLAN
9	Selected Advanced Topic
10	Selected Advanced Topic
11	Student presentations
12	Student presentations
13	Final Exam