

Course Name : Wireless and Mobile Networks							
Course Code	Course Type	Regular Semester	Lecture (hours/week)	Seminar (hours/week)	Lab. (hours/week)	Credits	ECTS
CMP 219	B	Fall	3.00	0.00	1.00	3.00	5.00
Lecturer		Ejona Bodo, Msc					
Assistant							
Course language		Albanian					
Course level		Bachelor					
Description		In this course, the focus is on the basic techniques of the radio interface in all wireless systems and networks, on top of which, e.g., the Internet network protocols are built. Upon completing the course, the student can explain and compare the structures, principles, and possible applications of different wireless communication systems.					
Objectives		Provide basic knowledge of main wireless communication systems, celular communication systems, WiFi and IoT.					
Core Concepts		Wi-Fi Antenna Radio-frequency Base Station Safety IoT					
Course Outline							
Week	Topic						
1	Syllabus Presentation						
2	Introduction to Wireless Network						
3	Fundamentals of Signal Transmission						
4	Introduction to Bluetooth Technology						
5	Multiple Access Methods in Telecommunication						
6	Introduction to GSM						
7	Security and Encryption						
8	Mid Term Exam						
9	Introduction to 3G						
10	Signal Coding Techniques						
11	Mobile Technology Applications						
12	Introduction to IoT (Part 1)						
13	Introduction to IoT (Part 1)						
14	Handover						
15	Repetition						
16	Final Exam						

Prerequisites	The student must attend the course at a minimum rate of 75%.
Literature	• Wireless Communication Networks and Systems, by Cory Beard and William Stallings ISBN: 0133594173
References	• Materiale shitesë të ofruara nga lektori i lëndës (Extra material notes provided by the course lecturer)

Course Outcome

1	Student should be able to explain the general principles how the different phenomena in mobile radio channels have to be taken into consideration in the design of a reliable radio communication link.
2	Student should be able to explain the whole transmission chain in a wireless communication system.
3	Student should be able to describe the significance of different transmitter and receiver signal processing modules
4	Student should be able to describe the general principles of sharing the channel in duplex and multiuser radio communications, as well as basic operation of the most common medium access (MAC) protocols.
5	Student should be able to describe the general structure and main elements and functionalities of a cellular mobile communication system
6	Student should be able to describe the concepts of Internet of Things

Course Evaluation

In-term Studies	Quantity	Percentage
Midterms	1	30
Quizzes	0	0
Projects	1	10
Term Projects	0	0
Laboratory	0	0
Class Participation	1	10
Total in-term evaluation percent		50
Final exam percent		50
Total		100

ECTS Workload (Based on Student Workload)

Activities	Quantity	Duration (hours)	Total (hours)
Course duration (Including the exam week: 16x Total hours of the course)	16	4	64
Study hours outside the classroom (Preparation, Practice, etc.)	14	4	56
Duties	1	0	0
Midterms	1	1	1
Final Exam	1	2	2
Other	0	0	0
Total Work Load			123
Total Work Load / 25 (hours)			4.92
ECTS			5.00