



UNIVERSITY OF PRIZREN
FACULTY OF COMPUTER SCIENCE

PROGRAM:

Curriculum - – SYLLABUS							
<i>Level of studies</i>	Bachelor	<i>Program</i>	TIT	<i>Academic year</i>	2018/2019		
SUBJECT	Mobile communications concepts						
<i>Year</i>		<i>Status Of the subject</i> Obligatory	<i>Code</i>		<i>ECTS credits</i>	5	
<i>Semester</i>							
<i>Teaching weeks</i>	15		<i>Hours teaching</i>	60	<i>Lectures</i>	<i>Exercises</i>	
					2	2	
<i>Teaching Methodology</i>	Lectures, exercises, consultations, tests.						
<i>Consultation</i>							
<i>The teacher</i>	Dr.sc. Arianit Maraj		<i>E-mail:</i>	Arianitm@gmail.com			
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			<i>Tel.:</i>				

Study goal and table of content	Benefits of student
<p>The main aim of this course is to provide to the students an introduction for the functioning of the mobile systems, the future functioning, which technology will be the future of wireless local networks as well the impact of the mobility on applications, security and IP networks.</p>	<p>Students will be able to explain the main functions of mobile phone networks, wireless computing networks and the role of mobility in IP networks.</p> <p>Students will understand and compare applications of different mobile telecommunication networks for different situations</p>

Methodology for the implementation of educational topics:		
Lectures, slides, readings, and exercises. Also, the students will work on homework, group or individual projects. Cases of studies will be included according to the situation.		
Conditions for realization of educational topics:		
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Ways of assessing of the student (in %) :	Evaluation in%	Final grade
Two tests and project and/or homework.	First test 40%	91 - 100 = 10
	Second test 40%	81 - 90 = 9
	Project/homework 20%	71 - 80 = 8
		61 - 70 = 7
Total	100.00 %	51 - 60 = 6
Obligations of student:		
Lectures	Exercises	

Activities	Hour/ weeks	Days/Weeks	Hours
Lectures	2	15	30
Exercises	2	15	30
Practical work			
Contacts with teachers / consultations	1	15	15
Exercises in the field			
Seminars			
Homework			
Own study time	3	15	45
Preparation for final exam	2	15	20
Time spent in the assessment (tests, final exam, etc.)			5
Projects, presentations, etc.			5
Notice: 1 ECTS credits= 25 hour commitment, e.g. if the subject has 6 ECTS credits student must have 150 hours during the semester commitment.		Total load:	
Week	Lectures Topic	Hour	Exercises Topic
1	Introduction to mobile communications concepts	2	Questions and Discussions
2	Mobile telecommunication applications, market, reference model, etc	2	Questions and Discussions
3	Wireless transmission, mediuym access control, SFMA, FDMA, TDMA, CDMA	2	Questions and Discussions
4	Wireless telecommunications systems, GSM	2	Questions and Discussions
5	Wireless telecommunications systems, DECT, TETRA, UMTS, IMT-2000, LTE and 5G	2	Questions and Discussions
6	Satellite systems, GEO, LEO, MEO transmission systems	2	Questions and Discussions
7	Wireless LAN, IEEE 802.11 standards	2	Questions and Discussions
8	First test	2	Recapitulation of the material covered for first test
9	Wireless LAN, Hyperlan, bluetooth	2	Questions and Discussions
10	Mobile network layer, mobile IP, ad hoc mobile networks	2	Questions and Discussions
11	Mobile transport layer, Traditional TCP, TCP over mobile networking 2.5/3G	2	Questions and Discussions

12	Mobility Support, WWW and WAP LTE and 5G networks, concepts and services	2	Questions and Discussions	2
13	Mobility support, i-mode, SyncML, WAP 2.0	2	Questions and Discussions	2
14	Next generation architecture, forecast	2	Questions and Discussions	2
15	Second test	2	Projects and/or homework	2

LITERATURE:

- Introduction to Mobile Network Engineering: GSM, 3G-WCDMA, LTE and the Road to 5G, Alexander Kukushkin, ISBN: 978-1-119-48419-6, September 2018
- 5G Mobile Communications: Concepts and Technologies, 1st Edition, Saad Asif, ISBN 9781498751551, 2018
- Mobile Communications and Networks, Christian Bettstetter
- Jochen H. Schiller, *Mobile Communications, Second Edition*. Addison-Wesley, 2003.

NOTICE:

- Generally, the lecture presentations will be made through the PowerPoint
- Additional resources (scientific papers, publications, national bulletins, and recent discoveries and research) will be provided by the professor.

Notice for the student:

- Students are required to be regular in the lectures and exercises section.
- The contribution of students in the form of conversation and cooperation with students will be evaluated.
- Timely arrival in lectures and exercises is mandatory.