

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Wireless Internet Access		Code 1010805131010812347
Field of study Electronics and Telecommunications	Profile of study (general academic, practical) general academic	Year /Semester 2 / 3
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) elective
Cycle of study: Second-cycle studies	Form of study (full-time,part-time) part-time	
No. of hours Lecture: 15 Classes: - Laboratory: - Project/seminars: -		No. of credits 2
Status of the course in the study program (Basic, major, other) major		(university-wide, from another field) from field
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 2 100% 2 100%
Responsible for subject / lecturer: dr hab. inż. Paweł Szulakiewicz, prof. nadzw. email: szulak@et.put.poznan.pl tel. 61 6653870 Faculty of Electronics and Telecommunications ul. Piotrowo 3A 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Students have basic knowledge concerning signal theory, radiocommunications, wireless channels and digital communication systems (K1_W06, K1_W15, K2_W06)
2	Skills	Student is able to compare and professionally judge digital communication systems from the point of view of their parameters, modulation types and technologies(K1_U21)
3	Social competencies	Students understand limitations of their knowledge and necessity of professional approach to engineering problems solving. (K1_K01, K1_K02)
Assumptions and objectives of the course: The objective of the course is to teach students the methods of wireless access to internet.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Students have wide knowledge concerning methods of the wireless internet access. - [K2_W06] 2. Students know some selected wireless network standards - [K2_W06] 3. Is conversant with problems and methods related to electromagnetic radiation in radiocommunication systems. - [K2_W04] 4. The student knows the principles and structure of the satellite navigation systems - [K2_W10]		
Skills:		
1. Student is able to design and deploy wireless network according to the standard IEEE 802.11 - [K2_U13] 2. Student is able to compare, professionally discuss and apply different wireless internet access methods - [K2_U13] 3. Student is able to give a professional opinion concerning wireless internet access - [K2_U13] 4. Student can evaluate the parameters of satellite systems. - [K2_U10] 5. Student is able to propose measures against its hazardous influence on other devices and systems, and on humans - [K2_U06]		
Social competencies:		
1. Student understands the necessity of studying new technologies and new standards of wireless networks - [K2_02] 2. Student understands the challenges for wireless systems which come from the rising traffic. - [K2_02]		

Assessment methods of study outcomes		
Oral examination concerning wireless internet access.		
Course description		
Wireless internet access standard (IEEE 802.11 b,a g,n,ac) Physical, link and network layers. MIMO technique. MAC protocols. ICI cancellation in the wireless systems. Basic features of WiMAX, H2, Bluetooth, Zigbee, UWB, and other wireless networks,		
Basic bibliography:		
1. Any guide to WiFi 2. Standards of the wireless networks (IEEE digital library, internet) 3. Selected papers available in internet and in digital IEEE and/or ACM library		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. Lecture	15	
2. Student self study	20	
Student's workload		
Source of workload	hours	ECTS
Total workload	35	2
Contact hours	15	1
Practical activities	0	0