

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Devices in telecommunication networks</b>		Code <b>1010804161010824241</b>
Field of study <b>Electronics and Telecommunications</b>	Profile of study (general academic, practical) <b>general academic</b>	Year /Semester <b>3 / 6</b>
Elective path/specialty <b>-</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>elective</b>
Cycle of study: <b>First-cycle studies</b>	Form of study (full-time,part-time) <b>part-time</b>	
No. of hours Lecture: <b>20</b> Classes: <b>-</b> Laboratory: <b>30</b> Project/seminars: <b>-</b>		No. of credits <b>6</b>
Status of the course in the study program (Basic, major, other) <b>major</b>		(university-wide, from another field) <b>from field</b>
Education areas and fields of science and art <b>technical sciences</b> <b>Technical sciences</b>		ECTS distribution (number and %) <b>6 100%</b> <b>6 100%</b>
<b>Responsible for subject / lecturer:</b> prof. dr hab. inż. Wojciech Kabaciński email: wojciech.kabacinski@et.put.poznan.pl tel. 061 665 3907 Elektroniki i Telekomunikacji ul. Polanka 3, 60-965 Poznań		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	He knows the basic terminology in digital modulation and transmission systems. He has the basic knowledge in probability and graph theory.
2	<b>Skills</b>	He is able to find information in literature and data bases, as well as other reference sources in Polish or English; is able to integrate and interpret obtained information, draws conclusions and justifies opinions [K1_U01]. He is able to communicate with other professionals in Polish or English [K1_U02]
3	<b>Social competencies</b>	He knows the limitations of their own knowledge and skills, he understands the need for further education [K1_K01]
<b>Assumptions and objectives of the course:</b> To make students familiar with structures of telecommunication networks and operation on basic devices used in such networks.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. He has a well-ordered knowledge in telecommunication network architectures - [K1_W22] 2. He has a well-ordered knowledge in current standards concerning telecommunication networks - [K1_W22] 3. He knows directions of telecommunication networks evolution - [K1_W24]		
<b>Skills:</b>		
1. He is able to identify problems in telecommunication network operations - [K1_U14] 2. He can to conduct measurements of typical parameters concerning telecommunication network operations - [K1_U17] 3. He is able to chose the basic devices for telecommunication networks - [K1_U21]		
<b>Social competencies:</b>		
1. He knows the limitations of their own knowledge and skills, he understands the need for further education - [K1_K01] 2. He is aware of significance of telecommunication networks for society - [K1_K04]		
<b>Assessment methods of study outcomes</b>		

<p>Forming assessment:                  In the laboratory: on the basis of short questions before exercises and written reports from the laboratory exercises.                  Summary assessment:                  Lectures: Written exam in the form of the multiple choice test; points for each question: -0,25 p. (wrong answer), 0 p. (no answer), 1 p. (correct answer); exam is passed when student receives at least 50% points. Exam can be taken after the completion of laboratory.</p>		
<b>Course description</b>		
<p>Lectures:                  Telecommunication networks and information transfer methods. Types of telecommunication networks. Network models. Transmission systems. Transport networks. Service networks: telephony (POTS), ISDN, GSM, ATM, IP. Network nodes: exchanges, switches, routers. Principles of traffic theory.</p> <p>Laboratory: Internal and external connections in PABX systems. Basic terminology in DSS1. Signalling messages. Exchange of signalling messages in DSS1. Basic terminology in SS7. Basic functionality of SS7. Basic configuration of telecommunication networks. Testing configurations in telecommunication networks. Configuration of devices in ATM networks. Routing in ATM networks.</p>		
<b>Basic bibliography:</b>		
<p>1. W. Kabaciński, Standaryzacja w sieciach ISDN, Wydawnictwo Politechniki Poznańskiej, 2001                  2. W. Kabaciński, M. Żal: ?Sieci Telekomunikacyjne?, WKŁ, 2008.                  3. G. Danilewicz, W. Kabaciński: ?System sygnalizacji nr 7?, WKŁ, 2005.</p>		
<b>Additional bibliography:</b>		
<p>1. A. Jajszczyk: Wstęp do telekomutacji, WNT, 2000</p>		
<b>Result of average student's workload</b>		
<b>Activity</b>	<b>Time (working hours)</b>	
1. Lectures	20	
2. Laboratory	30	
3. Preparation for lectures	30	
4. Preparation for laboratory	40	
5. Preparation for the exam	25	
6. Exam	2	
7. Discussion of exam outcomes	2	
<b>Student's workload</b>		
<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	150	6
Contact hours	55	2
Practical activities	70	3