

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Bases of electronics and the telecommunications</b>		Code <b>1010334521010337054</b>
Field of study <b>Information Engineering</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>1 / 2</b>
Elective path/specialty <b>-</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>obligatory</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>8</b> Classes: <b>-</b> Laboratory: <b>8</b> Project/seminars: <b>-</b>		No. of credits <b>3</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art		ECTS distribution (number and %)
<b>Responsible for subject / lecturer:</b> dr hab. inż. Tomasz Pajchrowski email: tomasz.pajchrowski@put.poznan.pl tel. 61 6652385 Faculty of Electrical Engineering ul. Piotrowo 3A 60-965 Poznań		<b>Responsible for subject / lecturer:</b> dr hab. inż. Tomasz Pajchrowski email: tomasz.pajchrowski@put.poznan.pl tel. 61 6652385 Faculty of Electrical Engineering ul. Piotrowo 3A 60-965 Poznań
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Basic knowledge of mathematics, physics and electrical engineering basics.
2	<b>Skills</b>	The ability to understand and interpret knowledge conveyed in the classroom. Ability to effectively self-education in a field related to the chosen field of study.
3	<b>Social competencies</b>	Is aware of the need to broaden their competence, willingness to work together as a team.
<b>Assumptions and objectives of the course:</b> Knowing the size of the physical and fundamental circuit theory. Knowledge of methods of analysis of electronic circuits and systems, telecommunications.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b> 1. Modeling to characterize the elements and principles of electrical circuits, including electronic. - [K_W02 +++, K_W03 ++ ] 2. Explain the principles of operation of any linear and linearized electromagnetic devices, electronics and telecommunications. - [K_W03 ++]		
<b>Skills:</b> 1. Apply knowledge of electrical circuit theory and necessary to determine the relevant parameters of electromagnetic analog and digital circuits. - [K_U08 ++] 2. Obtain information from the literature and the Internet, work individually, independently solve problems in the theory of modeling and analysis of electrical circuits. - [K_U01 ++, K_U03 + ]		
<b>Social competencies:</b> 1. Able to think and act in an entrepreneurial manner in the analysis of electrical circuits, electronic and telecommunication. - [K_K01 +]		
<b>Assessment methods of study outcomes</b>		

<p>Lecture:          ? assess the knowledge and skills listed on the written test of the theory of electronics and telecommunications.</p> <p>Laboratory:          ? to evaluate the skills to prepare the measurement circuitry and communication - skills check for each class and one test during the semester.</p> <p>Get extra points for the activity in the classroom, and in particular for:          ? propose to discuss additional aspects of the subject;          ? the effectiveness of the application of the knowledge gained during solving the given problem;          ? ability to work within a team practice performing the task detailed in the laboratory;          ? subsequent to the improvement of teaching materials;          ? developed aesthetic diligence reports and jobs - in the self-study.</p>		
<b>Course description</b>		
<p>Multimedia presentations (including drawings, photographs, animations, sound, films) supplemented by examples given on the blackboard. Theory presented in connection with the current knowledge of students.</p> <p>Program content:          History and basic concepts of electrical engineering. Electrical signals and their classification. Basic concepts of electric circuit with concentric parameters. Basic components and electronic circuits. Mathematical models of electrical and electronic components. Basic information on telecommunication systems and tracks. Transport media. Analysis of digital circuits in telecommunications.</p>		
<p><b>Basic bibliography:</b></p> <ol style="list-style-type: none"> <li>1. Bolkowski S. &amp;#38;#38;#34;Teoria obwodów elektrycznych&amp;#38;#38;#34;, WNT, Warszawa, 1998</li> <li>2. Krakowski M. &amp;#38;#38;#34;Elektrotechnika Teoretyczna. T.1&amp;#38;#38;#34;, PWN, Warszawa, 1995</li> <li>3. Lurch E. &amp;#38;#38;#34;Podstawy Techniki Elektronicznej&amp;#38;#38;#34;, PWN Warszawa</li> <li>4. Wesołowski K. &amp;#38;#38;#34;Podstawy cyfrowych systemów telekomunikacyjnych&amp;#38;#38;#34;, WKŁ, 2006</li> </ol>		
<p><b>Additional bibliography:</b></p> <ol style="list-style-type: none"> <li>1. Mikołajuk K., Trzaska Z. &amp;#38;#38;#34;Zbiór zadań z elektrotechniki teoretycznej&amp;#38;#38;#34;, WNT, W-a, 1978</li> <li>2. Chua L.O., Desoer C.A., Kuh E.S. &amp;#38;#38;#34;Linear and Nonlinear Circuits&amp;#38;#38;#34;, McGraw-Hill Inc., 1987</li> </ol>		
<b>Result of average student's workload</b>		
<b>Activity</b>		<b>Time (working hours)</b>
1. participation in lecture classes		8
2. participation in laboratory classes		16
3. participation in consultation concerning the lecture		2
4. participation in consultation concerning the laboratory		4
5. preparation for the test/exam		34
6. test/exam		2
7. preparing the laboratory description		36
<b>Student's workload</b>		
<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	102	3
Contact hours	32	1
Practical activities	52	2