

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Operating Systems		Code 1010811161010820868
Field of study Electronics and Telecommunications	Profile of study (general academic, practical) general academic	Year /Semester 3 / 6
Elective path/specialty Radio Communications	Subject offered in: Polish	Course (compulsory, elective) elective
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 2 Classes: 1 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: phd. eng. Adam Kaliszan email: adam.kaliszan@et.put.poznan.pl tel. +48 61 665 3909 Faculty of Electronics and Telecommunications ul. Piotrowo 3A 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	1. Has knowledge of digital circuits 2. Has Knowledge of C/C++ and C# programming languages.
2	Skills	1 He can obtain information from the literature and other sources in Polish or English, can integrate the information, make their interpretation, draw conclusions and justify opinions. 2 He can use high-level programming languages ??C, C++, C#.
3	Social competencies	1 Knows the limits of their own knowledge and skills, understands the need for ongoing education. 2 He can carry out collaborative projects
Assumptions and objectives of the course: Getting to know the functioning of the computer. An understanding of the operating system and the function it performs, such as process management, memory management, and to ensure the protection of resources.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. It has a structured knowledge of operating systems and databases. Has knowledge of the techniques of protection and management of the computer. - [K1_W22] 2. Has a systematic knowledge of operating systems and data bases. Has the knowledge of computer resource management and protection technologies. - [K1_W23]		
Skills:		
1. Is able to extract information from Polish or English language literature, databases and other sources. Is able to synthesize gathered information, draw conclusions, and justify opinions. - [K1_U01] 2. Is able to communicate in English or in Polish in the professional environment and other environments. - [K1_U02]		
Social competencies:		
1. Is aware of the limitations of his/her current knowledge and skills; is committed to further self-study. - [K1_K01] 2. Demonstrates responsibility for designed electronic and telecommunication systems. Is aware of the hazards they pose for individuals and communities if they are improperly designed or produced. - [K1_K03] 3. Is aware of the main challenges facing electronics and telecommunication in the 21st century. Is aware of the impact electronics and ICT systems and networks will have on the development of the information society. - [K1_K04]		

Assessment methods of study outcomes		
Individual or group projects (double group) performed in the laboratory. Written test laboratories in the field.		
Written test in the field of lecture content. This includes questions of concern and the knowledge and understanding of basic definitions of operating systems for managing processes and memory protection hardware synchronization process.		
Course description		
The lectures cover the following topics: Introduction to Operating Systems Hardware protection Process Management memory Management Virtual Memory Synchronizing processes Interprocess communication and race condition		
Basic bibliography:		
1. Silberschatz A., Galvin P.B.: ?Operating System Concepts?		
Additional bibliography:		
1. Slides for the book ?Operating System Concepts? http://codex.cs.yale.edu/avi/os-book/OS8/os8e/slide-dir/index.html		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation on lectures and excercises	45	
2. Preparation for the exercises and an exam	10	
3. Consultations	1	
Student's workload		
Source of workload	hours	ECTS
Total workload	60	2
Contact hours	50	1
Practical activities	27	1