

Subject card

Operating Systems of Industrial Computers, PG_00049432								
Electronics and Telecommunications								
October 2022		Academic year of realisation of subject		2025/2026				
first-cycle studies		Subject group		Optional subject group Subject group related to scientific research in the field of study				
Full-time studies		Mode of delivery			at the university			
4		Language of instruction			Polish			
7		ECTS credits			1.0			
general academic profile		Assessment form			exam			
			ty of Electronic	s, Telec	commur	nications and li	nformatics	
Subject supervisor		dr hab. inż. Iwona Kochańska						
Teachers		dr hab. inż. Iwona Kochańska						
Lesson type	Lecture	Tutorial	Laboratory	Project		Seminar	SUM	
Number of study hours	15.0	0.0	0.0	0.0		0.0	15	
E-learning hours included: 0.0								
Learning activity					Self-study		SUM	
Number of study hours	15	1.0			9.0		25	
The aim of the course is to provide knowledge about the architecture of operating systems used in industrial computers.								
Course out	Course outcome		Subject outcome			Method of verification		
[K6_W03] Knows and understands, to an advanced extent, the construction and operating principles of components and systems related to the field of study, including theories, methods and complex relationships between them and selected specific issues - appropriate for the curriculum		The student knows at an advanced level the architecture of industrial computer operating systems			[SW1] Assessment of factual knowledge			
[K6_W04] Knows and understands, to an advanced extent, the principles, methods and techniques of programming and the principles of computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study, and organisation of systems using computers or such devices		The student knows and understands at an advanced level programming methods and techniques for operating systems used in industrial computers			[SW1] Assessment of factual knowledge			
Introduction Architecture of industrial computer operating systems POSIX standard Operating system kernel services Process Manager Resource manager QNX operating system Linux operating systems in industrial computers MS Windows operating systems in industrial computers								
	Electronics and Telect October 2022 first-cycle studies Full-time studies 4 7 general academic production Subject supervisor Teachers Lesson type Number of study hours E-learning hours included the study hours The aim of the course industrial computers. Course out [K6_W03] Knows an understands, to an a extent, the construct operating principles components and system to the field of study, theories, methods ar relationships between selected specific issuappropriate for the components and system to the field of study, theories, methods are relationships between selected specific issuappropriate for the components and system to the field of study, theories, methods are relationships between selected specific issuappropriate for the components and the principles of software development or programmable elections and the principles of systems specific to the study, and organisate systems using compute or programmable elections are specific to the study, and organisate systems using compute or programmager quality and organisate systems using compute or programmager quality and organisate systems using compute organisate systems using	Electronics and Telecommunications October 2022 first-cycle studies Full-time studies 4 7 general academic profile Department of Marine Electronic Systems specific to the field of study, and organisation of systems using microprocessors or programming devices or controllers using microprocessors or programming devices or controllers using microprocessors or programming devices or controllers using computers or systems specific to the field of study, and the principles of computer software development or programming devices or controllers using microprocessors or programming devices or controllers using microprocessors or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study, and operating over the field of systems using microprocessors or programming devices or controllers using microprocessors or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of systems using microprocessors or programmable elements or systems specific to the field of systems using microprocessors or programmable elements or systems specific to the field of systems using microprocessors or programmable elements or systems specific to the field of systems using computers or such devices Introduction Architecture of industrial computer or POSIX standard Operating system kernel services Process Manager Resource manager Resource manager Resource manager Resource manager in industrial industrial computer in industrial computer industrial computer industrial computer industrial computer industr	Electronics and Telecommunications October 2022 Academic y realisation Full-time studies Full-time studies Mode of details and the profile Assessmer Department of Marine Electronic Systems -> Facul Subject supervisor Department of Marine Electronic Systems -> Facul Subject supervisor Teachers Department of Marine Electronic Systems -> Facul Subject supervisor Lesson type Lecture Lesson type Lecture Tutorial Number of study hours E-learning hours included: 0.0 Learning activity Participation in didactic classes included in study plan Number of study hours The aim of the course is to provide knowledge aboundustrial computers. Course outcome [K6_W03] Knows and understands, to an advanced extent, the construction and operating principles of components and systems related to the field of study, including theories, methods and complex relationships between them and selected specific issues - appropriate for the curriculum [K6_W04] Knows and understands, to an advanced extent, the principles, methods and techniques of programming and the principles of computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study, and organisation of systems using computers or such devices Introduction Architecture of industrial computer operating system kernel services Process Manager Resource manager Qoy Appearance of the services Process Manager Resource manager Qoy operating system kernel services Process Manager Resource manager Qoy operating system kernel services Process Manager Resource manager Qoy operating systems in industrial computers	Electronics and Telecommunications October 2022 Academic year of realisation of subject first-cycle studies Subject group Full-time studies Mode of delivery 4 Language of instruction 7 ECTS credits general academic profile Department of Marine Electronic Systems -> Faculty of Electronic Subject supervisor Teachers Department of Marine Electronic Systems -> Faculty of Electronic Subject supervisor Teachers Department of Marine Electronic Systems -> Faculty of Electronic Subject supervisor Teachers Department of Marine Electronic Systems -> Faculty of Electronic Subject supervisor Teachers Department of Marine Electronic Systems -> Faculty of Electronic Subject supervisor Teachers Department of Marine Electronic Systems -> Faculty of Electronic Subject supervisor Teachers Department of Marine Electronic Systems -> Faculty of Electronic Subject subona Kochański dr hab. inż. 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Iwona Kochańska Teachers dr hab. inż. Iwona Kochańska Lesson type Lecture Tutorial Laboratory Project Number of study hours Felearning hours included: 0.0 Learning activity Participation in didactic classes included in study plan Number of study hours The aim of the course is to provide knowledge about the architecture of o industrial computers. Course outcome [K6_W03] Knows and understands, to an advanced extent, the construction and operating principles of components and systems related to the field of study, including theories, methods and complex relationships between them and selected specific issues - appropriate for the curriculum [K6_W04] Knows and understands, to an advanced extent, the principles, methods and techniques of programming and the principles, methods and complex relationships between them and selected specific issues - appropriate for the curriculum [K6_W04] Knows and understands at an advanced level programming methods and techniques of programming and the principles of computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study, and organisation of systems using computers or such devices Introduction Architecture of industrial computer operating systems process Manager Resource manager Resource manager Resource manager Resource manager Rosurce manager Rosurce manager Rosurce manager Linux operating systems in inidustrial computers	Electronics and Telecommunications October 2022 Academic year of realisation of subject first-cycle studies Subject group Option Subject group Academic year of realisation of subject Subject group Option Subject group Academic year of realisation of subject Subject group Option Subject group Academic year of realisation of subject Academic year of realisation of subject Academic year of realisation of subject Academic year of realisation of subject group Option Subject group Academic year of realisation of subject group Academic year of realisation of subject group Option Subject group Academic year of realisation of subject group Act the Language of instruction Polish Academic year of realisation of subject group Act the Language of instruction Polish Accentry Act the Language of instruction Academic year of realisation of subject group Act the Academic year of such the Academic year of the Academic years Act the Language of instruction Academic year of call the Act the Language of instruction polish years Act the Language of instruction polish Academic year of polish Act the Language of instruction polish Academic year of polish Act the Language of instruction polish Academic year of polish Act the Language of instruction polish Academic year of polish Act the Language of instruction polish Academic year of industrial computer operating systems Academic year of industrial computer operating systems in industrial computers Academic year of industrial computer operating systems in	Electronics and Telecommunications October 2022 Academic year of realisation of subject first-cycle studies Subject group Optional subject group subject group relate research in the field research in the field at the university 4 Language of instruction 7 ECTS credits 1.0 general academic profile Assessment form Department of Marine Electronic Systems -> Faculty of Electronics, Telecommunications and in Subject supervisor Teachers dr hab. in2. Iwona Kochańska Lesson type Lecture Tutorial Laboratory Number of study Number of study Nours E-learning hours included: 0.0 Learning activity Participation in didactic classes included in study plan Number of study Nours Participation in didactic classes included in study Number of study Nours Fourse outcome IKG_W03 Knows and understands, to an advanced extent, the construction and operating principles of components and systems related to the field of study, including theories, methods and compiters The student knows at an advanced level principles of components and systems related to the field of study, including theories, methods and compiter software development or programming and the principles, methods and techniques of programming and the principles, methods and techniques of programming and the principles of computer software development or programmable elements or systems specific to the field of study, and organisation of systems using microprocessors or programmable elements or systems specific to the field of study, and organisation of systems using computers or such devices Introduction Architecture of industrial computer operating systems used in industrial computers POSIX standard Operating system kernel services Process Manager Resource manager QNX operating systems in industrial computers	

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Assessment methods	Subject passing criteria	Passing threshold	Percentage of the final grade		
and criteria	Midterm colloquium	60.0%	100.0%		
Recommended reading	Basic literature	A. S. Tanenbaum, "Modern Operating Systems. Fourth Edition", Global Edition			
	Supplementary literature	Tammy Noergaard, Embedded Systems Architecture: A Comprehensive Guide for Engineers and Programmers, Newnes, Elsevier 2005			
	eResources addresses	Adresy na platformie eNauczanie:			
Example issues/ example questions/ tasks being completed					
Work placement	Not applicable				

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