GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Advanced Computer Architectures, PG_00047895		
Field of study	Informatics		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2027/2028
Education level	first-cycle studies	Subject group	Optional subject group Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	6	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department Of Geoinformatics -> Faculty Of Electronics Telecommunications And Informatics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Jerzy Demkowicz	
	Teachers	dr inż. Jerzy Demkowicz	

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	E-learning hours included: 0.0						

Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
	Number of study hours	30	2.0	18.0	50

Subject objectives	The main goal of the lecture is acquaintance with advanced aspects of pipe, VLIW architectures as well as low level EFI stack.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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 use of virtual machines and the implementation of any computer architecture	[SW1] Assessment of factual knowledge
	[K6_U04] can apply knowledge of programming methods and techniques as well as select and apply appropriate programming methods and tools in computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study	Ability to create software for various ISA platforms.	[SU1] Assessment of task fulfilment

Subject contents	1. ARM, MIPS, DLX processor design process
	2. OpenSparc, Leon open VHDL technology
	3. EFI shell - modern low level API
	4. RAID
	5. SATA, eSATA, PCI technology

Prerequisites and co-requisites	

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Lab	51.0%	50.0%
	Lecture	51.0%	50.0%

Recommended reading	Basic literature	Compute Architecture A Quantitative Approach , 4th.ed, 2007 - Hennessy & Patterson
	Supplementary literature	Manuals available during the course
	eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	

Work placement	Not applicable

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