GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Technologies of Interaction, PG_00058804		
Field of study	Informatics		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2023/2024
Education level	second-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	Part-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department of Computer Architecture -> Faculty of Electronics, Telecommunications and Informatics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Mariusz Szwoch	
	Teachers	dr inż. Mariusz Szwoch	

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	12.0	0.0	15.0	0.0	0.0	27
	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	27	10.0	63.0	100

Subject objectives	learning architectures of distributed Internet systems, mechanisms and solutions to problems and issues in Internet applications.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_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	Student can implement the internet application based on the plain java servlet technology and using the spring framework.	[SW1] Assessment of factual knowledge
[K7_W41] Knows and understands, to an increased extent, the standards, production methods, life cycle and development trends of software as well as information systems and applications.	Student know how to use contenerized applications in order to improve quality and performance of the CI/CD processes.	[SW1] Assessment of factual knowledge
[K7_W42] Knows and understands, to an increased extent, the principles and trends in the analysis and design of local and distributed IT systems and the basics of computer modeling and computerization of complex cognitive and decision-making processes.	Student recognize the architecture of an internet application and can describe which architecture is used by the modern internet applications.	[SW1] Assessment of factual knowledge
[K7_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, making assessment and critical analysis of the prepared software as well as a synthesis and creative interpretation of information presented with it	Student can specify the architecture of application and the components appropriate for the presented problem.	[SU1] Assessment of task fulfilment
[K7_U41] can select methods of modelling and analysis of information systems and applications using selected elements of theoretical computer science and modern programming tools	The student know advantages and limitations of the popular internet protocols such as http/1.1, http/2, soap, rpc, grpc.	[SU1] Assessment of task fulfilment

Subject contents

1 Fundamentals of Internet communication, using HTTP(S) 2 session, passing parameters between client and server 3 Fundamental software architectures for distributed applications (basics, examples): a. client-server b. distributed objects c. multi-tier architectures d. agent systems e. SOA f. grid, cloud computing g. mobile applications 4 Servlets/JSP 5 JEE 6 Web Services (SOAP, WSDL, UDDI etc.), using AXIS 5 Complex workflows using services 6 Design of web and business layers 7. load balancing in Internet applications 8. securing Internet applications 9 mobile applications in the Internet

Prerequisites and co-requisites

knowledge of Java

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Practical exercise	50.0%	50.0%
Written exam	50.0%	50.0%

Recommended reading

Basic literature	1 Dokumentacja HTTP, WSDL, SOAP, UDDI 2 S. Graham, S. Simeonov, T. Boubez, D. Davis, G. Daniels Building Web Services with Java: Making Sense of XML, SOAP, WSDL and UDDI
Supplementary literature	No requirements
eResources addresses	Adresy na platformie eNauczanie: Technologie interakcji MSU 2024 - Moodle ID: 36606 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=36606

Example issues/ example questions/ tasks being completed

Work placement

Not applicable