GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Internet Applications Tools and Patterns, PG_00047968		
Field of study	Informatics		
Date of commencement of studies	October 2020	Academic year of realisation of subject	2023/2024
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	4	Language of instruction	Polish
Semester of study	7	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Computer Architecture -> Faculty of Electronics, Telecommunications and Informatics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Jarosław Kuchta	
	Teachers	dr inż. Jarosław Kuchta	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	30.0	0.0	45

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	45	3.0	27.0	75

Subject objectives: Acquiring knowledge and skills to design applications running in multitier Internet systems

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	Knows architecture models internet application systems. Distinguishes architecture multi-layered and multi-stem. Knows the ways to split functions application between client and server. Knows the main design patterns distributed applications. Know principles of main constructions architectural layers.	[SW1] Assessment of factual knowledge
[K6_U09] can carry out a critical analysis of the functioning of existing technical solutions and assess these solutions, as well as apply experience related to the maintenance of technical systems, devices and facilities typical for the field of studies, gained in the professional engineering environment	Creates project documentation web application or system Internet using known design patterns	[SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment

Subject contents

- Specific problems of Web applications design
- Designing of the web-based system architecture
- Design of the web-based application logic
- The principles of the web application user interface design
- Principles of the data structure design for web-based systems
- Data layer design patterns
- Design patterns for data transfer between distributed components
- Service Layer design patterns
- Design Patterns for a construction of the web application
- Design Patterns for the web application presentation layer

Prerequisites and co-requisites

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project documentation	50.0%	50.0%
	Exam during semester	50.0%	50.0%
Recommended reading	Basic literature	Andrew S. Tanenbaum, Maarten Van Steen: Distributed Systems: Principles and Paradigms Core J2EE Pattern Catalog, http://www.corej2eepatterns.com/ Erich Gamma, Richard Helm, Ralph Johnson and John Vlissides: Design Patterns: Elements of Reusable Object-Oriented Software	
	Supplementary literature	Guidelines, Patterns, and code for end-to-end Java applications. http://www.oracle.com/technetwork/java/catalog-137601.html	
	eResources addresses	Adresy na platformie eNauczanie: Projektowanie Aplikacji Internetowych 2023/24 - Moodle ID: 33448 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33448	
Example issues/ example questions/ tasks being completed	• Differences between multilayer and multi-tier web-based system. • Ways to ensure the scalability of web applications running in the multitier system. • Design patterns used in the construction of web applications		
Work placement	Not applicable		