GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Telecommunication Services Design, PG_00048155		
Field of study	Electronics and Telecommunications		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2026/2027
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	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Teleinformation Networks -> Faculty of Electronics, Telecommunications and Informatics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Marcin Narloch	
	Teachers	dr inż. Marcin Narloch	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	15.0	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 goal of the subject is to provide students knowledge about design of telecommunication services.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U31] can identify telecommunications network architectures, differentiates their areas and functional elements, evaluates the quality of service delivery, calculates parameters of functional elements	Student makes exemplary application presenting obtained knowledge and skills regarding creation of information services.	[SU4] Assessment of ability to use methods and tools
[K6_W35] Knows the concepts of the technique of signal transmission, operation of telecommunications networks and multimedia services and the rules for providing them	Student describe possibilities of new service creation with the aid of information and telecommunication technologies for converged networks. Student masters the creation of information services with the aid of various APIs. Student learns usage of tools for the creation of information services.	[SW1] Assessment of factual knowledge

Subject contents

1. Creation of new services in terms of network, technology, information and telecommunication services convergence 2. Intelligent network services 3. Realization of teleservices as an applications in the context of pro-gramming interfaces standardization 4. Client-server model for design of services in information networks 5. Programming of network communication with socket interface 6. Standards of Application Programming Interface (API) for telecommu-nication services design 7. Common ISDN API (CAPI) for designing services in ISDN network 8. Telephony Application Programming Interface (TAPI) in MS Windows as an universal interface for designing services 9. TAPI architecture 10. Basic interfaces and functions offered by TAPI objects 11. Realization of TAPI application with structural C API 12. Realization of TAPI application with Component Object Model (COM) API 13. Realization of TAPI application with Java language (Java TAPI) 14. Multimedia services – cooperation of TAPI and Media API 15. Interaction of TAPI with voice and video group conference applications 16. Real-time Communications (RTC) Client API in MS Windows as an interface for IP communication services design 17. Extension of service capabilities by inclusion of text messages – Mail API (MAPI), voice – Speech API (SAPI) 18. Realization of Interactive Voice Response (IVR) and Voice Mail services 19. Realization of Call Centers 20. Exemplary TAPI application

Prerequisites and co-requisites

No requirements

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	50.0%	50.0%
	Midterm colloquium	50.0%	50.0%
Recommended reading	Basic literature	Material prepared by the lecturer in the form of xeroxcopy.	
	Supplementary literature	1. Amundsen M. C., MAPI, SAPI and TAPI Developers Guide, Sams Publishing, 1996. 2. Chris Sells, Windows Telephony Programming: A Developer"s Guide To Tapi, Addison-wesley Professional, 1999. 3. Roberts S., Essential JTAPI: Java Telephony API. Design Telecom Projects with Java, Prentice Hall PTR, 1999.	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		