GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Application Servers in Medicine, PG_00068241		
Field of study	Biomedical Engineering		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2028/2029
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	4.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department of Biomedical Engineering -> Faculty of Electronics Telecommunications and Informatics -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Adam Bujnowski	
	Teachers	dr inż. Adam Bujnowski	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	15.0	15.0	0.0	60

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	60	5.0	35.0	100

Subject objectives

The course aims to introduce students to the topic of IT services, covering both the design and organization of server infrastructure (e.g. data centers) and the techniques for implementing common network services in information 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	Student creates service for automated data collection.	[SU1] Assessment of task fulfilment
[K6_U02] can perform tasks related to the field of study in an innovative way as well as solve complex and nontypical problems, applying knowledge of physics, in changing and not fully predictable conditions	Student creates tematic service using given tools	[SU4] Assessment of ability to use methods and tools
[K6_U07] can apply methods of process and function support, specific to the field of study	Student creates selected elements of bigger system on the base of given information	[SU2] Assessment of ability to analyse information

Subject contents

Course content – lecture
1. Basic concepts related to servers, 2. Server requirements, 3. Methods for ensuring service continuity, 4. Server operating environment, 5. Network fundamentals layered model and communication protocols, 6. Clientserver architecture, 7. Operating system as a service platform, 8. Configuration of mail servers and protocols (SMTP, POP3, IMAP), 9. File transfer over a network, 10. Web services and HTTP servers, 11. Techniques for creating dynamic web content, 12. Servlet containers and web applications, 13. Cloud computing, 14. Practical applications of application servers, 15. Examples of service server applications in industry - particurarly in medicine

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3"></td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>final writting class</td><td>60.0%</td><td>50.0%</td></tr>
<tr><td>laboratory achievements</td><td>60.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Multiple authors, Vademecum teleinformatyka, Tom 1, IDG 1999

Multiple authors, Vademecum teleinformatyka, Tom 2, IDG 1999

Multiple authors, Vademecum teleinformatyka, Tom 3, IDG 1999

Barnett, Apache, Zabezpieczenia aplikacji i serwerów www, Helion , 2007</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Ford, Apache 2. Pocket reference. O'relly

www.ltsp.org

www.apache.org</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">Configure the http server in selected configurations
How does DNS work?
The principle of e-mail
Discuss the types of uninterruptible power supplies
What is redundancy and where is it used?</td></tr>
<tr><td>Practical activites within the subject</td><td colspan="3">Not applicable</td></tr>
</table>

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