University of Gdańsk

Subject card

Subject name and code	Web Services, PG_00193540		
Field of study	Bioinformatics		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2028/2029
Education level	Bachelor's 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	e-learning
Year of study	3	Language of instruction	Polish
Semester of study	5	ECTS credits	3.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Carbohydrate Chemistry -> Department of Organic Chemistry -> Faculty of Chemistry -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Rafał Ślusarz	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	30.0	0.0	0.0	30

E-learning hours included: 30.0

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	0.0	45.0	75

Subject objectives

Mastering techniques and tools using publicly available network services (resource sharing, cryptography elements, bioinformatics servers, identification and location services).

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOINL3_W01] Has knowledge of computer science technologies, with particular emphasis on programming	student defines network services and distinguishes between network services and local services; names the components of services; characterizes the levels of security of access to services at the transmission and storage stages; explains the rules for accessing, distributing and modifying services.	[SW3] text preparation/written work
[BIOINL3_U01] Graduate is able to program using modern programming tools, including tools dedicated to bioinformatics	student detects available network services; identifies the network services found; chooses how to access and use network services; plans the use of available services to solve the problems posed; anticipates the possibility of service compromise and chooses how to prevent it; constructs correct queries to bioinformatics service servers	[SU2] presentation/project/paper/ report

Subject contents

- Operating selected tools and servers from the command line.
- Transmission and storage of data on remote servers.
- Online processing of information using bioinformatics databases.
- Searching and using publicly available web services and advanced web services.

<table>
<tr><td>Prerequisites
and co-requisites</td><td>Formal requirements:

• Passed subject: Introduction to Computer Science, Information Technology or related course.

Prerequisites:

• proficiency in the use of general and specialized Internet search engines,
• basic knowledge of English,
• ability to install software in any available operating system,
• ability to operate programs without a graphical user interface.</td></tr>
<tr><td>Assessment methods
and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>student prepares a report for each exercise performed; each such report is assessed separately; the final grade is the arithmetic mean of the partial grades obtained</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>none</td></tr><tr><td>Supplementary literature</td><td>none</td></tr><tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/
example questions/
tasks being completed</td><td colspan="2">• identify the ports open on the machine with the indicated IPv4 address
• prepare a full-atom representation of the M3 muscarinic receptor
• encrypt a message with the indicated content using GPG</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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