University of Gdańsk

Subject card

Subject name and code	Cybersecurity, PG_00178740						
Field of study	Informatics and Econometrics						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028		
Education level	Master's studies		Subject group		Obligatory subject group in the field of study Optional subject group 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	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		6.0		
Learning profile	academic		Assessment form		exam		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Przemysław Jatkiewicz				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	8.0	0.0	24.0	0.0	0.0	32
	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	32		2.0		116.0	150
Subject objectives	To introduce students to processes, best practices and technological solutions that help protect critical systems and networks from digital attacks.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[IiEMU2_K02] The student is ready to perform professional roles responsibly, observe and develop the principles of professional ethics and act to comply with them, as well as to care for the development of achievements and maintain the ethos and tradition of professions related to econometrics, informatics or statistics.	The student is ready to perform the roles of Data Protection Officer, Cybersecurity Specialist, and Cybersecurity Auditor.	[SK4] test/exam - oral or written
	[IiEMU2_U05] The student can recognize and effectively apply legal, professional, and ethical standards within management, quality sciences, economics, and finance.	The student is able to conduct a risk analysis, plan an audit, and develop an information security policy.	[SU6] demonstration of practical skills
	[IiEMU2_U12] The student can adapt, design, create, and operate IT systems that support business entities.	The student is able to secure operating systems and network services.	[SU5] implementation of a problem task
	[IiEMU2_W07] The student possesses a comprehensive understanding of regulations and legal, organizational, and ethical norms, particularly those related to the protection of intellectual property and relevant informatics tools.	The student is familiar with the 27000 series standards, the NIS Directive and the GDPR.	[SW4] test/exam - oral or written

<table>
<tr><td>Subject contents</td><td>Lecture

Regulations, standards, good practices related to cybersecurity.

Personal data protection

Threats and vulnerabilities of IT systems

Physical security of servers

Malware

Audit, inspection, tests, checks

Risk analysis methodologies

Cryptography

Exercises

To familiarize students with the principles of protecting LAMP servers (Linux, Apache, Mysql, PHP).

Identification. authentication, authorization.

Server protection against malware

Planning and preparation of the audit, conducting the audit, post-audit activities

Audit support tools

Conducting risk analysis</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>None</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>Written exam</td><td>51.0%</td><td>50.0%</td></tr>
<tr><td>Problem-based tasks</td><td>51.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td>Recommended reading</td><td><table>
<tr><td>Basic literature</td><td>P. Jatkiewicz, Bezpieczeństwo systemów informatycznych firm, Wydawnictwo UG 2020</td></tr>
<tr><td>Supplementary literature</td><td>Molski M., Łacheta M., Przewodnik audytora systemów informatycznych, Helion 2006

E. Nemeth, G. Snyder, T. Hein, B. Whaley, Unix i Linux Przewodnik administratora systemów, Helion 2023</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
</table></td></tr>
</table>

Example issues/ example questions/ tasks being completed	State the differences between symmetric encryption, asymmetric encryption and hash functions. Implement two-factor authentication using Google Authenticator.
Work placement	Not applicable

Document generated electronically. Does not require a seal or signature.