

<b>Subject</b>	<b>Cyber Security and Individual Privacy</b>			
	Type	Semester	ECTS	Code
	<b>Obligatory (O)</b>	<b>V</b>	<b>6</b>	
<b>Lecturer of Subject Assistant Tutor</b>	Prof. Ass. Dr. n.a n.a			
<b>Aim and Objective</b>	<p><b>Specific Objectives:</b> This course provides an introduction to the principles, practices, and technologies of cyber security and data protection. Students will explore fundamental concepts in information security, risk management, cryptography, network security, and data privacy. Emphasis will be placed on understanding threats and vulnerabilities, implementing security measures, and developing strategies for protecting sensitive information in various digital environments..</p> <p><b>Course Objectives:</b></p> <ul style="list-style-type: none"> <li>- Understand the fundamentals of cyber security and data protection.</li> <li>- Identify common cyber threats and vulnerabilities.</li> <li>- Implement security measures to protect information assets.</li> <li>- Apply cryptographic techniques for secure communication and data storage.</li> <li>- Evaluate risk management strategies in cyber security.</li> <li>- Analyze legal and ethical issues related to data privacy.</li> <li>- Develop incident response plans for handling security breaches.</li> <li>- Explore emerging trends and challenges in cyber security.</li> </ul>			
<b>Learning outcomes</b>	<p><b>After successful completion of this course, students will be able to:</b></p> <p>Foundational Knowledge: Students will demonstrate a comprehensive understanding of the fundamental principles, concepts, and terminology of cyber security and data protection.</p> <p>Threat Identification and Analysis: Students will be able to identify and analyze various cyber threats and vulnerabilities, assess their potential impact on information systems, and prioritize mitigation strategies accordingly.</p> <p>Risk Management: Students will develop skills in conducting risk assessments, applying risk management methodologies, and implementing appropriate controls to mitigate risks to information assets.</p> <p>Cryptography Proficiency: Students will gain proficiency in cryptographic techniques, including symmetric and asymmetric encryption, digital signatures, and certificate management, and</p>			

	<p>apply them effectively in securing communication and data storage.</p> <p><b>Network Security:</b> Students will demonstrate knowledge of secure network architecture, design principles, and security mechanisms, and be able to implement and configure network security solutions to protect against cyber threats.</p> <p><b>Data Protection Strategies:</b> Students will understand data classification, access control mechanisms, encryption techniques, and data masking methods, and apply them to protect sensitive information from unauthorized access and disclosure.</p> <p><b>Legal and Ethical Awareness:</b> Students will be able to analyze legal and ethical issues related to data privacy and security, understand regulatory compliance requirements (e.g., GDPR, HIPAA), and develop strategies to ensure ethical handling of data.</p> <p><b>Incident Response and Recovery:</b> Students will develop skills in incident detection, analysis, and response, including the formulation and implementation of incident response plans, and post-incident recovery and lessons learned.</p>				
<b>Content</b>	<b>Course plan</b>			<b>Content</b>	
	-	Introduction - Syllabus Overview: Content of the course, concepts, methods, organization, and course requirements.		1	
	-	Introduction to Cyber Security		2	
	-	Risk Management.		3	
	-	Cyber Threats, Hackers and National Security.		4	
	-	Cryptography.		5	
	-	Network Security.		6	
	-	First test.		7	
	-	Data Protection.		8	
	-	Cyber Security (Documentary).		9	
	-	Legal and Ethical Aspects		10	
	-	Counterterrorism Options and Strategies.		11	
	-	Incident Response:		12	
	-	Emerging Trends		13	
	-	Review, student presentations, and preparation for the final exam.		14	
	-	Final Exam.		15	
<b>Activity / ECTS workload</b>	<b>Aktiviteti</b>			<b>Weight</b>	
	1.	Interactive lectures		50%	
	2.	Seminars+exercises (research paper)		30%	
	3.	Case studies		10%	
	4.	Simulation (role play)		5%	
	5.	Study visit		5%	
<b>Assessment Methods</b>	<b>Assessment activity</b>		<b>Number</b>	<b>Week</b>	<b>Weight</b>
	5.	Participation	1	2-15	50%

	2. Presentations of scientific/professional	1	2-15	10%
	3. Participation in lectures	15	1-15	40%
<b>Sources and tools of concretization</b>	<b>Means</b>			<b>Number</b>
	1. Classes			1
	2. Laborator			n/a
	3. Moodle			1
	4. Softuer MATLAB/SPSS/SIMULINK			n/a
	5. Projector			1
<b>ECTS workload</b>	<b>Activity type</b>		<b>Week</b>	<b>Total load</b>
	1. Lectures		2	30
	2. Seminars		1	15
	3. Consultations		0.5	7
	4. Research paper		n.a	21
	5. Independent learning		2-3	75
	6. Exams		1	2
	7. Total			150
<b>Literature/References</b>	<p><b>Basic literature:</b></p> <ul style="list-style-type: none"> <li>- "Principles of Information Security" by Michael E. Whitman and Herbert J. Mattord</li> <li>- "Cryptography and Network Security: Principles and Practice" by William Stallings</li> <li>- "Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World" by Bruce Schneier</li> <li>- "Cybersecurity Essentials" by Charles J. Brooks</li> <li>- "The Tangled Web: A Guide to Securing Modern Web Applications" by Michal Zalewski</li> <li>- "Privacy Engineering: A Dataflow and Ontological Approach" by Willy Picard</li> </ul>			
<b>Contact</b>				
<b>Note:</b>	<ul style="list-style-type: none"> <li>- Assessment in this course, as explained above, consists of 3 components: individual research work, presentation of articles and other assignments distributed during the week, and physical and active participation in lectures.</li> <li>- Students who have 3 absences during the semester, the maximum grade they can receive in this course is 7 (seven). Meanwhile, those who have 4 or more absences during the semester, the maximum grade they can receive in this course is 6 (six).</li> <li>- The course instructor reserves the right to make changes and adaptations during the semester in order to achieve the course objectives more effectively. Of course, students will be notified in advance of these changes.</li> </ul>			

