



COURSE UNIT (MODULE) DESCRIPTION

Course unit title	Course unit code
ELECTRONIC PAYMENTS AND THEIR SECURITY	

Lecturer (s)	Department where course unit is delivered
Prof. Audrius Lopata	Institute of Social Sciences and Applied Informatics Kaunas Faculty 8 Muitines st., LT-44280 Kaunas

Cycle	Level of course unit	Type of the course unit
First	1/1	Individual Studies

Mode of delivery	Semester or period when the course unit is delivered	Language of instruction
Face to face	4 semester	Lithuanian

Prerequisites and corequisites	
Prerequisites: Fundamentals of Information Systems Security	Corequisites:

Course (module) volume in ECTS credits	Student's workload	Contact work hours	Individual work hours
5	133	48	85

Purpose of the course unit (module): programme competences to be developed		
The aim is to acquaint students with the fundamental knowledge about e-banking technologies and electronic fund transfer systems.		
Learning outcomes of course unit	Teaching and learning methods	Assessment methods
Students will be able to apply theoretical and practical knowledge necessary for the development of electronic payment solutions	Individual Project Laboratory classes Literature analysis	Colloquium (interview conducted by a lecturer and / or specialist), Examination, Individual work, Laboratory examination
Students will be able to put in practice methodologies and tools necessary for electronic payment solution analysis, specification and certification processes.	Individual project, Laboratory classes	Colloquium (interview conducted by a lecturer and / or specialist), Examination, Individual work, Laboratory examination

Course content: breakdown of the topics	Contact work hours							Individual work hours and tasks	
	Lectures	Tutorials	Seminars	Workshops	Laboratory work	Practice	All contact work	Individual work	Tasks
1. Introduction to e-banking. History, technology types, their advantages and disadvantages, evolution and future trends.	4						4	5	Individual practical assignment
2. Mobile and online banking technology. Hardware and software. Overview of the situation in Lithuania and abroad.	4				2		6	10	Individual practical assignment
3. Architecture of electronic payment solution technologies and their operating principles. Processing principles of electronic payment transactions and the most popular protocols and standards.	8				4		14	20	Individual practical assignment
4. The security of electronic payment systems. The requirements of Payment Card Industry Data Security Standard (PCI DSS). The examples of its practical implementation.	8				4		12	20	Individual practical assignment
5. EMV based hardware and software regulations, specifications and standards, the application for business solutions.	8				4		12	20	Individual practical assignment
6. Preparation for the final examination.								10	Individual practical assignment
Total	32				16		48	85	

Assesment strategy	Weight	Date of examination	Assesment criteria
Individual Work and Presentation	30	8-10 week.	Evaluation scale: 10-9: Excellent knowledge and skills. The evaluation level 90-100% correct answers. 8-7: Good knowledge and skills, the answers may contain some minor mistakes. Synthesis level. 70-89% correct answers. 6-5: Average knowledge and skills, the answers containing a number of mistakes. Level of analysis. 50-69% correct answers. 4-3: The level of knowledge and skills is below average, the major errors. The level of knowledge is between 20-49% of correct answers. 2-1: Unsatisfactory results which do not reach the minimum requirements. 0-19% correct answers.
Practical Project	30	13-15 week.	Evaluation scale: 10-9: Excellent knowledge and skills. The evaluation level 90-100% correct answers. 8-7: Good knowledge and skills, the answers may contain some minor mistakes. Synthesis level. 70-89% correct answers. 6-5: Average knowledge and skills, the answers containing a number of

			mistakes. Level of analysis. 50-69% correct answers. 4-3: The level of knowledge and skills is below average, the major errors. The level of knowledge is between 20-49% of correct answers.
Final examination	40	16 week.	Evaluation scale: 10-9: Excellent knowledge and skills. The evaluation level 90-100% of correct answers. 8-7: Good knowledge and skills, the answers may contain some minor mistakes. Synthesis level. 70-89% of correct answers. 6-5: Average knowledge and skills, the answers containing a number of mistakes. Level of analysis. 50-69% of correct answers. 4-3: The level of knowledge and skills is below average, the major errors. The level of knowledge is between 20-49% of correct answers.

Author	Year	Title	Number of periodical publication or publication Volume	The place of publication and publisher or online link
Required reading				
1. EMVCO Technical Specification	2019	<i>EMV Payment Tokenisation. A Guide to Use Cases</i>	Version 1.0	https://www.emvco.com/wp-content/uploads/documents/EMVCo-Payment-Tokenisation-A-Guide-To-Use-Cases-v1.0.pdf
2. Sidelov, Pavlo	2018	<i>The World Of Digital Payments: Practical Course (FinTech)</i>		Amazon.com Services LLC
3. EMVCO Technical Specification	2017	<i>A Guide to EMV Chip Technology</i>	Version 3.0	https://www.emvco.com/wp-content/uploads/documents/A-Guide-to-EMV-Chip-Technology-v3.0-1.pdf
4. PCI Standards Council	2016	<i>PCI DSS Quick Reference Guide Understanding the Payment Card Industry Data Security Standard version 3.2</i>	PCI DSS Quick Reference Guide: Understanding the Payment Card Industry Data Security Standard version 3.2	https://www.pcisecuritystandards.org/documents/PCIDSS_QRGv3_2.pdf
5. Schatt, Dan, Laplanche, Renaud	2014	<i>Virtual Banking: A Guide to Innovation and Partnering</i>	1 edition	Wiley Finance
6. Skinner, Chris	2014	<i>Digital Bank: Strategies to Launch or</i>		Marshall Cavendish

		<i>Become a Digital Bank</i>		International
Additional reading				
1. SCN Education B.V.	2008	<i>Electronic Banking: The Ultimate Guide to Business and Technology of Online Banking</i>		Vieweg+Teubner Verlag
2. Rashid, Harun-Ur A. K. M.	2011	<i>E-Banking Services: A Study of the Computer Based Banking Services</i>		LAP Lambert Academic Publishing
3. EMV Co	2011	<i>EMV Integrated Circuit Card Specifications for Payment Systems. Book 4 Cardholder, Attendant, and Acquirer Interface Requirements</i>		http://www.emvco.com/download_agreement.aspx?id=655