FINANCIAL TECHNOLOGY

Programme type	Master's studies (University)
Field of study	Information Systems
Study area	Computing
Degree	Master's Degree in Computing
Duration	1.5 years (3 semesters)
Workload	90 ECTS
Language of instruction	English
Location	Kaunas, Lithuania
Starting date	1 September

PROGRAMME DESCRIPTION

- *The objective*

The objective of the study programme *Financial Technology* is to prepare senior and chief specialists in the industry of modern financial technologies who are able to apply the knowledge of financial instruments, advanced information and communication technologies as well as modern research achievements by realising the theoretical and practical activity models in both classical and innovative, centralised and decentralised e-markets, banking, investment insurance sectors and organisations operating in state and private sectors.

- *Career opportunities*

Graduates of the programme *Financial Technology (FinTech)* may work as managers and consultants in financial intermediaries and financial services companies; introduce technological innovations of the financial sector in branches of banks, insurance companies, business enterprises; work as managers of software engineers, business and IT analysts. Graduates will be able to work as blockchain developers, company executives, AI programmers, crypto investment portfolio managers, big data analysts, and project managers in the business of FinTech applied solutions. Moreover, graduates will be able to set up FinTech Startups using their skills to creatively apply financial technology innovations, adapt the acquired analytical and research skills, develop financial technology business policies and strategies, develop the ecosystems of new financial services, advanced financial instruments, business models, communicate with the public and lead a team

- *Access to further studies*

A completed Master's programme opens up wide opportunities to continue research in the PhD level study programmes.

KEY LEARNING OUTCOMES

The graduate is able to:

- identify, analyse and assess the means, knowledge, technologies and methodologies related with financial analysis and data processing that operate on the basis of information and communications technology (ICT) and apply these when solving the multifaceted tasks of financial technology;
- apply the knowledge of finance informatics in both professional and research activities as well as create the systems based on cryptographic currency and smart contracts functioning in finance markets, accounting, solutions of the Internet of Things and social networks;
- analyse and critically evaluate the principles of financial technology processes, instruments, financial transaction processing systems, methodologies, tools and solutions emerging in the context of the fourth industrial revolution;
- carry out technology research, forecasting and modelling activities by using adequate analytical tools and sets of the largest financial databases and applying the distributed systems and high-performance computing;
- analyse information, financial and technological processes which create value in an organisation, critically evaluate the theoretical and practical aspects of analysis and decision-making by invoking the knowledge of business analytics, organisation management and their synthesis;
- select optimisation methods suitable for the elimination of such risks by understanding the principles and specificity of financial market supervisors;
- apply existing or offer new mathematical and statistical models for the applied tasks with large arrays of data;
- use and develop the instruments for the application of information technology in the financial sector;
- apply technologies based on the clustering, filtering of investment instruments, fuzzy set logic by working out and developing solutions of applied character;
- apply blockchain-based solutions for the identification, authentication, record-keeping and validation tasks in decentralised and centralised systems;
- make reasonable business decisions, implement technology innovations in business by critically evaluating the tendencies and changes in finance industry;
- solve various tasks and problems arising during activities; responsibly and effectively carry out professional activity in the local and international context by following social, legal and ethical norms;
- analyse and systemise the research data necessary for the studies, scholarly and professional activities and the implementation of innovations; effectively manage information resources; critically evaluate information, determine its reliability and adequately use it in the studies or professional activity;
- plan and organise both individual and other employees' work, carry out managerial tasks taking into consideration existing resources (time, human resources, infrastructure etc.);
- think creatively and critically; flexibly and creatively evaluate the phenomena of financial engineering and the risks arising from the innovative business and finance processes.
- The graduate will know the legal framework, the market entering and tax principles of innovative products and apply this knowledge in professional activity; flexibly and creatively evaluate the risks emerging in business and innovation processes.

COURSE INFORMATION

Distinctive features of the study programme

- Interdisciplinarity: *Financial Technologies (FinTech)* Master's study programme combines subjects in the field of Information Systems and Finance.
- Qualified finance professionals filling out a new niche in the development of FinTech and Blockchain technology solutions for business and labour market, resulting from a combination of the classical area of financial engineering and innovative area of financial technology.
- FinTech programme follows the best practices of initiatives of such leading universities as Massachusetts Institute of Technology; Stanford University; Princeton University, etc.

- Lecturers of the study programme are long-term academic and business practitioners working in the field of innovative solutions, implementation and administration of financial technology development for 5–10 years.

The programme has the following structure:

Course Type	1st Semester	2nd Semester	3rd Semester
Compulsory Courses	Analysis of Large-scale Data and Its Technologies (5 ECTS)	FinTech Applied Solutions (5 ECTS)	Master Final Thesis (Study field: Information Systems) (25 ECTS)
	Intellectual Systems in Financial Markets (10 ECTS)	Investment Risk Managemen (5 ECTS)	Legal Framework of Financial Technologies (5 ECTS)
	Modern Banking Technologies (5 ECTS)	Cryptographic (Blockchain) Currencies and Applied Systems (10 ECTS)	
	Methods and Means for Business Process Optimisation (5 ECTS)	Scientific Research Work (Master's Final Project) (5 ECTS)	
Elective Courses	Innovation Management (5 ECTS)	Data and System Protection (5 ECTS)	
	International Finance (5 ECTS)	Solutions of Business Analysis and Management (5 ECTS)	

GRADUATION REQUIREMENTS

All the examinations of the course units of the programme should be passed and the Master's Thesis should be positively assessed during public defence.

EXAMINATION AND ASSESSMENT REGULATIONS

The main form of assessment is examination. Each course unit is concluded with either a written or written-oral examination or pass/fail assessment. Student's knowledge and general performance during the examination are assessed by using the grading scale from 1 (very poor) to 10 (excellent).

APPLICATION AND SELECTION REQUIREMENTS

- Bachelor's degree or its equivalent. Individuals who have completed university studies in economics, finance, computer science, business administration and management, electrical engineering, mathematics and other fields are admitted to the study programme; applicants must have basic knowledge in information technologies and finance, to be specified in the motivation letter.
- English language proficiency — the level not lower than B2 (following the Common Framework of Reference for Language approved by the Council of Europe).

Academic contact	Admission contact
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