COMPUTER MODELING

Programme type	Master's studies (university)
Field of study	Informatics
Study area	Informatics Sciences
Qualification awarded	Master in Informatics Sciences
Length of programme	1,5 years (3 semesters)
Scope of programme (ECTS)	90
Language of instruction	English
Location	Vilnius, Lithuania
Starting date	1st of September, 2017
Tuition fee EU students	3236 EUR/per year
Tuition fee Non-EU students	6438 EUR/ per year

PROGRAMME DESCRIPTION

The Computer Modelling programme ensures to use computer modeling technologies and participate in their development, to imply the generation and analysis of hypotheses and ideas, scientific, empirical and applied research, interpretation of results, to develop research and analytical skills, professional ethics code, to generate reports. The specific character of programme is constant improvements of various kind, as adding courses of cloud computing, of images and signal processing, of web services, etc. Students will gain also skills to research work, including HPC (high performance computing), Grid/ Cloud computing, or using supercomputer**.**

- *The objective*

The objectives of programme is to educate specialists with competences of the mathematical and computer modelling; to make research and apply knowledge in modelling of processes of physical sciences; to provide with skills of abstract thinking, assessment, and with attitudes that enable creativity when

technologies are changing; to stimulate the ability to communicate, propagate knowledge in the academic community, public sector, and business, also, the ability to integrate oneself into the community of the European science, technological development, and product marketing.

- *Career opportunities*

Positions in enterprises in the national or private sector where the applied practical or scientific computing is undertaken or problems in physical sciences are solved using mathematical or computer models that benefit by modern technologies.

- *Access to further studies*

The graduates can also pursue further studies in informatics (computer science), software engineering, and information technologies.

KEY LEARNING OUTCOMES

Data Management, Modelling and Analysis (25%), Modern Technologies (16%), Scientific Research (35%), Optional Subjects (12.2%).

COURSE INFORMATION

The programme has the following structure

Course Type	1st Semester	2nd Semester	3rd Semester
Compulsory Courses	Spatial Databases (6 ECTS)	Data Mining (5 ECTS)	Master Thesis (30 ECTS)
	Methods of Cryptography (6 ECTS)	JAVA Technologies (5 ECTS)	
	Methods of Nonlinear Modeling (6 ECTS)	Scientific Research project (9 ECTS)	
	Secure Internet Technologies (6 ECTS)	Signal and Image Analysis and Processing (6ECTS)	
Optional Courses	Programming in Cloud Computing (6 ECTS)	Visual Data Mining (5 ECTS)	
	Multi-dimensional Data Structures (6 ECTS)	Management of Information Security (5 ECTS)	
	Secure Operating Systems (6 ECTS)	Optimization Algorithms in Grid Environment (5 ECTS)	
	Secure Networks (6 ECTS)	Secure Dynamic Internet (5 ECTS)	
		Audit of System Security (5 ECTS)	
		Web Services (5 ECTS)	

GRADUATION REQUIREMENTS

Public defence of the Final Thesis.

ADMISSION REQUIREMENTS AND SELECTION CRITERIA

- Bachelor degree in Computer Science, Software Engineering, Information Technology, Mathematics or Physics;
- English language proficiency: the level not lower than B2 (following the Common Framework of Reference for Language approved by the Council of Europe).

EXAMINATION AND ASSESSMENT REGULATIONS

The main form of evaluation is an examination. Every course unit is concluded with either a written or written-oral examination or pass/fail evaluation. Student's knowledge and general performance during the exam are evaluated using grading scale from 1 (very poor) to 10 (excellent). The final stage of studies will include research done and defense for master thesis.

Academic contact	Admission contact
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