Union University – School of Computing

Master in Computational Finance
(in process of accreditation)

The purpose of the academic master program Master in Computational Finance is to educate students for different types of jobs which, at their core, have work with structured and unstructued financial data and extraction of useful knowledge from financial and other relevant sources of information while developing their intuition about the funcioning of financial markets and financial institutions. The study program is dealing with computational and algorithmic aspects of the problem as they apply to realistic business settings. Students are preparing for jobs in Serbia and on the international job market primarily in the area of digital economics and finance as well in financial technology firms. As English is de facto the language of finance and digital business, this study program is conducted in English.

Duration: 1 year (60 ECTS)
Title: Master in Computer Science - Computational Finance
Maximum number of enrolments: 15

Knowledge:
- Possession of advanced academic knowledge related to theories and principles of specific algorithms used for extraction of useful information from data presented in digital format, including critical understanding, evaluation and application of computer algorithms and different approaches to simulations and forecasting in finance and economics.
- Possession of professional knowledge of contemporary software platforms and mechanisms for their use in finance and economics.

Curriculum:

First semester		Contact hours	ECTS
Mathematical Models and Financial Derivatives		2+2	6
Financial Computing		2+2	6
Statistics and Financial Data Analysis		2+2	6
Electives (at least 12 ECTS)		4+4	12
	Stochastic Calculus	2+2	6
	Quantitative Risk Management	2+2	6
	Numerical Methods	2+2	6
	Topics in Financial Technologies	2+2	6
Second semester		**Contact hours**	**ECTS**
Machine Learning		2+2	6
Fixed Income and Credit		1+1	3
Internship		0+0	3
Master thesis preparation		0+0	9
Master thesis		0+0	9
		Total ECTS:	**60**