

## Incoming student mobility

UNIOS University Unit: SCHOOL OF APPLIED MATHEMATICS AND INFORMATICS

### COURSES OFFERED IN FOREIGN LANGUAGE FOR ERASMUS+ INDIVIDUAL INCOMING STUDENTS

Department or Chair within the UNIOS Unit	School of Applied Mathematics and Informatics
Study program	Graduate university study programme in mathematics (Master level) Branches: <ul style="list-style-type: none"> <li>Financial Mathematics and Statistics</li> </ul>
Study level	Graduate (master)
Course title	Mathematical Finance
Course code (if any)	M123
Language of instruction	English
Brief course description	<p>Syllabus.</p> <ol style="list-style-type: none"> <li>1. Financial market. Basic assumptions in mathematical models of financial market. Basic and derivative financial instruments. Portfolio. Arbitrage. The concept of non-arbitrary valuation of derivatives.</li> <li>2. Models of discrete-time financial market. Price modelling for risky financial instruments. Contingent claim. Non-arbitrage evaluation of contingent claims. Reachability of a contingent claim. Completeness of the financial market. Working with financial data in a software environment.</li> <li>3. A continuous-time financial market model. Price modelling for risky financial instruments. Contingent claim. Non-arbitrage evaluation of contingent claims under assumption that stock prices follow the geometric Brown motion - Black-Scholes-Merton model. Numerical evaluation of contingent claims within the financial market with more general assumptions. Application of these models to financial data in the software environment.</li> <li>4. Risk measures. Assessment and modelling of risk measures. Application of risk measures to the financial data in the software environment.</li> </ol>

## ERASMUS+

EU programme for education, training, youth and sport

Form of teaching	Consultative teaching.
Form of assessment	Lectures and exercises are obligatory. The final exam is oral, taken after the completed lectures and exercises and achieved minimum number of credits at the midterm exams. Students can influence the grade by writing homework during the semester.
Number of ECTS	6
Class hours per week	2+0+2
Minimum number of students	
Period of realization	Winter semester
Lecturer	Nenad Šuvak