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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | | Faculty of Science and Mathematics | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | **Mathematics** | | |
| Study Module (if applicable) | | | | Probability, Statistics and Financial Mathematics | | |
| Course title | | | | Financial modelling 1 | | |
| Level of study | | | | ☐Bachelor x Master’s ☐ Doctoral | | |
| Type of course | | | | ☐ Obligatory x Elective | | |
| Semester | | | | x Autumn ☐Spring | | |
| Year of study | | | | II | | |
| Number of ECTS allocated | | | | 7.5 | | |
| Name of lecturer/lecturers | | | | Prof. dr Miljana Jovanović | | |
| Teaching mode | | | | xLectures ☐Group tutorials ☐ Individual tutorials  ☐Laboratory work ☐ Project work ☐ Seminar  ☐Distance learning ☐ Blended learning ☐ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| *Introduce students with the discrete pricing approach. Students should be able to apply their knowledge in a modelling of price a risk-hedging security in discrete time.* | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| Discrete pricing approach:Risk neutral probability measure; Portfolio; Fundamental pricing theorem; Complete market.  Binomial asset pricing model: Binomial european option pricing model; Binomial american option pricing model; Models of forward prices; Models of futures prices.  A binomial interest rate model: Risk-free model; [Ho and Lee Model of the term structure of interest rates](http://users-deprecated.aims.ac.za/%7Etahiri/PGD-Essay-Template-2009_10.pdf); Simulation. | | | | | | |
| **LANGUAGE OF INSTRUCTION** | | | | | | |
| xSerbian (complete course) ☐ English (complete course) ☐ Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)  ☐Serbian with English mentoring ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| **ASSESSMENT METHODS AND CRITERIA** | | | | | | |
| **Pre exam duties** | **Points** | | **Final exam** | | | **points** |
| **Activity during lectures** |  | | **Written examination** | | | **35** |
| **Practical teaching** |  | | **Oral examination** | | | **35** |
| **Teaching colloquia** | **30** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |