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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 mathematics |
| Level of study | ☐Bachelor x Master’s ☐ Doctoral |
| Type of course | ☐ Obligatory x Elective |
| Semester  |  x Autumn ☐Spring |
| Year of study  | I |
| 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 basic financial instruments, especially with financial derivatives and the principles of their trade. Training students to, with certain upgrades, apply their knowledge on financial derivatives in the banking and stock exchange trading.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Bank accounts and loans: decursive interest rates, current and future value, anticipated interest rates. Rents. Loans. The impact of inflation on the value of equity.Bonds: nominal value, coupon, coupon period, accrued interest rates, the current yield, yield to maturity, the annual yield portfolio. Calculating price of bonds, duration, convexity, immunization of bond portfolios. Trading bonds on the local and international stock exchange. Stocks: Trading in shares on the domestic and world markets. Market averages and indexes as indicators of the industrial economy.Forward and futures: forward and futures price, types of futures.Options: lower and upper bonds for european and american options price, volatility options price, , put-call parity, hedging portfolio with options. |
| **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** |