|  |
| --- |
|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Economics |
| **GENERAL INFORMATION** |
| Study program  | **Finance, Banking and Insurance** |
| Study Module (if applicable) |  |
| Course title | Financial and Actuarial Mathematics |
| Level of study | [x] Bachelor [ ]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | Second |
| Number of ECTS allocated | 7 |
| Name of lecturer/lecturers | Žarko PopovićJelena Stanković |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [ ]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [x]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Financial and Acturial Mathematics is a course that provides a knowledge about the mathematical background for understanding calculations in financial services. The financial service industry places a great emphasis on raising the level of mathematics used in banks and insurance companies, and its applications to pricing, hedging and risk management. This course provides students with the skills necessary related to mathematics, statistics and computation, and yet required for pursuing a career in this fast-developing field.**Understanding the concept of Time Value of Money; Calculating present and future values of any set of expected future cash flows; Calculating payments on a debt contract; A basic knowledge of actuarial science;* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| *1. The time value of money under simple rate of interest; 2. The time value of money under compound rate of interest (Interest on Interest); 3. Present value of an amount; 4. Future value of an amount; 5. Finding the unknown rate of interest; 6. Finding the unknown time period; 7. Relative and conform interest rate; 8. Future value of deposits; 9. Present value of annuities; 10. Mathematics of Loans; 11. Financial calculation of long-term securities; 12. Principles of functioning, organization, characteristics and types of life insurance; 13. Technical and mathematical basis of calculation of tariffs in the life insurance; 14. Net of premiums for certain types of life insurance; 15. Gross premiums in life insurance* |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [ ]  English (complete course) [ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)[x] Serbian with English mentoring [ ] Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ASSESSMENT METHODS AND CRITERIA** |
| **Pre exam duties** | **Points** | **Final exam** | **points** |
| **Activity during lectures** | **30** | **Written examination** | **50** |
| **Practical teaching** |  | **Oral examination** |  |
| **Teaching colloquia** | **20** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |