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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 | | | | Risk theory | | |
| 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 Marija Milošević | | |
| Teaching mode | | | | xLectures ☐Group tutorials ☐ Individual tutorials  ☐Laboratory work ☐ Project work ☐ Seminar  ☐Distance learning ☐ Blended learning ☐ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| *The purpose of this course is to provide the student with the opportunity to get knowledge of the fundamentals of the risk modelling in non-life insurance. Students should be able to apply the knowledge in the practical problems within non-life insurance.* | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| *Basic concepts and risk modelling in non-life insurance: risk, premium, ruin, insurance and reinsurance portfolio, claim amount.*  *Claim number processes: renewal processes, counting processes, Poisson process, mixed Poisson process.*  *Claim size models: subexponential distributions, regularly varying distributions, light and heavy tailed distributions.*  *Total claim amount process.*  *Probabilistic models of individual and collective risk.*  *Cramer-Lundberg model: time of ruin, probability of ruin.*  *Classical premium calculation principles: net principle, expected value principle, principles of variance and standard deviation.*  *Reinsurance models: probability of ruin, some types of reinsurance contracts.* | | | | | | |
| **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** | | | | | | |