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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) | | | |  | | |
| Course title | | | | Introduction to complex analysis | | |
| Level of study | | | | xBachelor ☐ Master’s ☐ Doctoral | | |
| Type of course | | | | x Obligatory Elective | | |
| Semester | | | | x Autumn ☐Spring | | |
| Year of study | | | | The third year | | |
| Number of ECTS allocated | | | | 8 | | |
| Name of lecturer/lecturers | | | | Dijana V. Mosić | | |
| Teaching mode | | | | xLectures ☐Group tutorials ☐ Individual tutorials  ☐Laboratory work ☐ Project work ☐ Seminar  ☐Distance learning ☐ Blended learning ☐ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| *The students will master fundamental concepts of complex analysis and analitic functions.* | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| **• Holomorphic functions: complex numbers, topology of complex plane (conture, area), functions of complex variables, continuity, diferentiability, derivation, conformal mapping, bilinear function, elementary funcitons.**  **• Integration and holomopphic functions: integral (definition and properties), primary function, Cauchy’s theorem, integral formula(e) of Cauchy, Моrera’s theorem, Теylor series, properties of holomorphic functions, theorem about unity of holomorphic function, Weierstrass theorem, Loran series, isolated singularity, residuum.**  **•Primary geometric theorems: geometric principles (argument principle, Rouche’s theoremв, principe of keeping area, maximum modulus principe and Schwartz theorem).**  **• Conformal mapping: open mapping, analytic functions and angles between paths, analytic isomorphisms and automorphisms, Schwartz principle reflection.** | | | | | | |
| **LANGUAGE OF INSTRUCTION** | | | | | | |
| xSerbian (complete course) ☐ English (complete course) ☐ Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)  ☐Serbian with English mentoring ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| **ćASSESSMENT METHODS AND CRITERIA** | | | | | | |
| **Pre exam duties** | **Points** | | **Final exam** | | | **points** |
| **Activity during lectures** |  | | **Written examination** | | | **40** |
| **Practical teaching** | **15** | | **Oral examination** | | |  |
| **Teaching colloquia** | **45** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |