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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | | **Faculty of Civil Engineering and Architecture** | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | **Civil Engineering** | | |
| Study Module (if applicable) | | | | Structural engineering | | |
| Course title | | | | Limit analysis of structures | | |
| Level of study | | | | Master’s | | |
| Type of course | | | | Obligatory | | |
| Semester | | | | Autumn | | |
| Year of study | | | | 1st | | |
| Number of ECTS allocated | | | | 5 | | |
| Name of lecturer/lecturers | | | | Marina Mijalković | | |
| Teaching mode | | | | Lectures | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| Introduction to material behaviour in plasticity area and theory of elastoplastic.  Determination of the moment of plasticity of steel and reinforced concrete section. Mechanisms of failure. Determination of the limit capacity of linear systems using theorems of elastoplastic analysis. | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| Introduction and historical development of Theory of plasticity and border analysis of structures.  Physical characteristics of materials and rheological models. Limit capacity of load and border state stick section.  Load stage section due to a bending moment. Moment of section plasticity, and shape factor cross section.  Normal force influence on cross section plasticity. Theorems of border analysis: static and kinematic theorems.  Mechanisms and mechanisms combinations. Using of the theory of second order in the border analysis of structures. | | | | | | |
| **LANGUAGE OF INSTRUCTION** | | | | | | |
| Serbian (complete course) | | | | | | |
| **ASSESSMENT METHODS AND CRITERIA** | | | | | | |
| **Pre exam duties** | **Points** | | **Final exam** | | | **points** |
| **Activity during lectures** | **20** | | **Written examination** | | | **50** |
| **Practical teaching** |  | | **Oral examination** | | | **30** |
| **Teaching colloquia** |  | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |