|  |
| --- |
|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** |  |
| **GENERAL INFORMATION** |
| Study program  | **Mechanical engineering** |
| Study Module (if applicable) |  |
| Course title | TECHNOLOGY OF PLASTICTY |
| Level of study | ☐ Bachelor ☐ Master’s ☒ Doctoral |
| Type of course | ☐ Obligatory ☒ Elective |
| Semester  | ☐ Autumn ☒ Spring |
| Year of study  | First |
| Number of ECTS allocated | 10 |
| Name of lecturer / lecturers | Saša Ranđelović |
| Teaching mode | ☒Lectures ☐Group tutorials ☐ Individual tutorials☐ Laboratory work ☒ Project work ☐ Seminar☐ Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Introduce phd students to the theoretical foundations material plasticity and thus acquire the basics of continuum mechanics in the field of metal forming. Many of these fundamental knowledge is built into a very expensive software for the analysis of materials plasticity which themselves are challenging and provide the ability to upgrade and adapt the analysis of specific technological tasks. Student competence in the theoretical analysis and design metal forming processes and generation of FEM simulation models for the identification of the critical parameters. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Theory:** 1. Metal forming process, 2. Bulk metal forming 3. Sheat metal forming 4. Tensor stress and strain analysis 5. Theory of plasticity 6. Tensor of strain rate 7. Strain hardening modeling 8. Stress strain realtion for isotropic material 9. Eulerian method, Lagrangian method 10. ALE method for process of metal forming 10. Applay numerical model in metal forming process |
| **LANGUAGE OF INSTRUCTION** |
| ☒Serbian (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** | **10** | **Written examination** |  |
| **Practical teaching** | **60** | **Oral examination** | **30** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |