



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	<input type="checkbox"/> Bachelor <input type="checkbox"/> Master's <input checked="" type="checkbox"/> Doctoral
Type of course	<input type="checkbox"/> Obligatory <input checked="" type="checkbox"/> Elective
Semester	<input type="checkbox"/> Autumn <input checked="" type="checkbox"/> Spring
Year of study	First
Number of ECTS allocated	10
Name of lecturer / lecturers	Saša Randelović
Teaching mode	<input checked="" type="checkbox"/> Lectures <input type="checkbox"/> Group tutorials <input type="checkbox"/> Individual tutorials <input type="checkbox"/> Laboratory work <input checked="" type="checkbox"/> Project work <input type="checkbox"/> Seminar <input type="checkbox"/> Distance learning <input type="checkbox"/> Blended learning <input type="checkbox"/> 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**