

Course Unit Descriptor

Study Programme: Production Engineering			
Course Unit Title: Nanotechnologies			
Course Unit Code: P2507			
Name of Lecturer(s): Branko Škorić, Aleksandar Miletić, Terek Pal			
Type and Level of Studies: Master level			
Course Status (compulsory/elective): compulsory			
Semester (winter/summer): Winter/Summer			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 6			
Prerequisites: None			
Course Aims: Introduction to main directions of modern science development – nanomaterials and nanotechnologies.			
Learning Outcomes: Student is able to cope with development of nanotechnologies in mechanical engineering related to ultraprecise forming and nano modifications of tools and machine parts.			
Syllabus: Introduction to nanotechnologies. Material designing at the nano level. Nano structures procedures. Micro electromechanical systems (MEMS) Multifunctional materials. Performing processes parameters. Characterisation of nanomaterials features. Micro production. Surface and interface with nano production. Nanoinstruments. Nanotribology.			
Required Reading: Relevant literature in English TBD			
Weekly Contact Hours:	Lectures:	Practical work:	
Teaching Methods: Lectures are realized interactively through lectures, auditory, laboratory and computer practical classes. In lectures theoretical part is presented with characteristic examples for better understanding of subject content. In auditory practical classes, characteristic exercises are covered. Acquired knowledge is practically applied in laboratory practical classes using available laboratory equipment. Apart from lectures and practical classes, consultations are held regularly.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Homework	10	Oral part of the exam	40
Homework	40		
Laboratory exercise attendance	5		
Lecture attendance	5		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			