

Course Unit Descriptor

Study Programme: Production Engineering			
Course Unit Title: Innovation Technologies			
Course Unit Code: P1507			
Name of Lecturer(s): Milenko Sekulić			
Type and Level of Studies: Bachelor 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: Mastering the content in the field of innovation technologies			
Learning Outcomes: The competence to critically analyse the existing solutions and synthesize the original solutions in the field of computer integration of production systems.			
Syllabus: Driven factors in modern machining technology. Advancing cutting tool materials. Basic applications of advancing machining technologies (machining die and mold, machining micro products, machining of monolithic parts). Machining of hard materials. Machining difficult-to-machine materials. Manufacturing processes for sustainability (dry and semi-dry machining, cryogenic machining, high pressure jet assisted machining). Hybrid machining (ultrasonically assisted cutting, laser assisted machining, plasma assisted machining). Multitasking and one-pass machining. Advancing modelling of modern machining processes. Methods for rapid prototyping and tooling.			
Required Reading: Relevant literature in English TBD			
Weekly Contact Hours:	Lectures:	Practical work:	
Teaching Methods: Lectures are realized interactively in form of classes, laboratory and computer exercise. On classes theoretical part is elaborated followed by the characteristic examples in order to easily understand material. On laboratory exercises practical application of gained knowledge is realized on available laboratory equipment. On computer exercises use of information and communication technologies in managing knowledge in current field. Apart from lectures and exercises regular consultations are organized.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Group Assignment		Examination Assignment	
Exercises			
Test			
Test			
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			

