

Course Unit Descriptor

Study Programme: Agricultural engineering and information systems			
Course Unit Title: Workshop machines and practice			
Course Unit Code: 19.PTIO09			
Name of Lecturer(s): Milan D. Tomić			
Type and Level of Studies: Undergraduate (8 semesters, 240 ECTS)			
Course Status (compulsory/elective): compulsory			
Semester (winter/summer): summer			
Language of instruction: Serbian			
Mode of course unit delivery (face-to-face/distance learning): face-to-face			
Number of ECTS Allocated: 5			
Prerequisites: -			
Course Aims: Training and equipping students with technological procedures that are applied in small-batch and individual production of machine parts, in order to successfully master the problems of theoretical and practical repair of technical systems.			
Learning Outcomes: The ability of the candidate-student to perceive the problems that arise in the application of various repair technologies and the possibility of providing concrete solutions.			
Syllabus: <i>Theory</i> Measurement and measuring equipment (measurement rules, measurement errors, measurement of lengths, angles, coils and profiles, measuring instruments); Metalworking by removing chips (theory of cutting, elements of machines for metalworking with chip removal, machines for metalworking with chip removal, lathes, milling machines, planers, grinders, drills); Metal processing without removing chips (metal processing by deformation, forging, cutting, bending, casting); Metal joining techniques (welding techniques, electric arc welding, autogenous welding, electric resistance welding, welding in a protective atmosphere, electric resistance welding, friction welding, welding using ultrasound, soldering). <i>Practice</i> Practical work with measuring equipment and work on machine tools and production of workpieces according to drawings. The realization of the work is carried out on a lathe, a milling machine, a rotary planer and a drill; Acquaintance with devices for electric arc and autogenous welding and work with them in the realization of the production of assigned parts.			
Required Reading: 1. Tomić M. Remontne mašine i radionička praksa, Poljoprivredni fakultet Novi Sad, 2018. 2. Furman, T. : Poznavanje remontnih mašina, Poljoprivredni fakultet, Novi Sad, 1994. 3. Smith D.: Veštine i tehnologija zavarivanja, DD IP „Vuk Karadžić“ Paraćin, 1995. 4. Milikić D., Gostimirović M., Sekulić M.: Osnovi tehnologije obrade rezanjem, Fakultet tehničkih nauka, Novi Sad, 2008. 5. Nedić, B., Tadić, B., Obrada metala rezanjem, proračun elemenata režima obrade, Zbirka zadataka, skripta, Mašinski fakultet, Kragujevac, 2002.			
Weekly Contact Hours: 4	Lectures: 2		Practical work: 2
Teaching Methods: Lectures with the use of video presentations, demonstration exercises in laboratory (workshop) conditions, production of technological work cards, independent work with measuring equipment used in industrial and repair activities, machines for making materials and machines for making materials. Consultations within lectures and exercises.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points

Active class participation	5	written exam	20
Practical work	20	oral exam	30
Preliminary exam(s)	25	
Seminar(s)	-		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			