

Study program / course: Mechanical Engineering				
Type and level of study: Bachelor academic studies				
Course: Tools and devices				
Lecturer: Tadić, P. U. Branko				
Status of course: Elective for module M ₁ , VI semester				
Number of ECTS: 6				
Precondition: Passed exams: 1) Production technologies, 2) Fundamentals of machine design				
The objective of course The objective of the course is for students to master primarily the applicable knowledge. The emphasis is on engineering approach in design of fastening devices, selection of tools and "basics" of cutting tools design.				
The outcome of course The course outcomes should enable students to expand their theoretical knowledge and to apply already acquired knowledge from numerous fundamental disciplines (Mechanics, Thermodynamics, Cutting theory, etc.) on real systems. Besides that, students should also master the large part of expert knowledge related to problems of cutting tools and fastening devices.				
Syllabus				
Theoretical study The course study includes the following units: introductory considerations on fastening tools. Fundamental notions on bases, basing and manufacturing errors. Basing elements, self-adjusting supports, regulating supports, milling overall sizes. Fastening of elements - calculations. Standardization. Cutting tools fundamentals. Cutting tools geometry. Tools in metal turning. Tools in metal drilling. The milling tools. Cutting tools for threading. Cutting tools for grinding. Cutting tools optimization.				
Practical classes Laboratory classes. Practical work on machines.				
Recommended reading 1.Tadić, B., "Tools and Devices", Faculty of Mechanical Engineering, Kragujevac, 2008. (In Serbian) 2. Tadić, B., "Special Fastening Devices, Collection of Solved Problems", Faculty of Mechanical Engineering, Kragujevac, 2002. (In Serbian)				
The number of hours of active teaching:				Other classes: 1
Theory: 2	Practical classes: 1.6	Other forms of teaching: 0.4	Research study: 0	
Methods of teaching Practical work, Individual work				
Evaluation of knowledge				
Pre-final exam obligations	Points	Final exam	Points	
Activities during the classes:	5	Written test	20	
Practical classes:	5	Oral exam	20	
Colloquiums(s):	40			
Seminar(s):	10			