

Study program : Mechanical engineering			
Type and level of studies: Master academic studies			
Course unit: Tribology of machine systems			
Teacher in charge : Stojanović Ž. Blaža			
Language of instruction: <i>English</i>			
ECTS: 6			
Prerequisites: Listen out the course: -			
Semester: <i>Summer Semester</i>			
Course unit objective			
The aim of this course is teaching students in knowledge tribological characteristics of mechanical systems and application this knowledge's. in design process.			
Learning outcomes of Course unit			
The basic task of this course is qualifying students for tribologically correct design. Tribologically correct design is an important indicator of qualify design and the technical level of a product.			
Course unit contents			
<i>Theoretical classes</i>			
The bases of tribology: Geometric characteristics of active surfaces. The structure of surface case. Friction. The basic theories of friction. The basic theories of wear. Classification of wear mechanism. The curve of wear. Characteristics of tribological processes of gear transmitters: Friction in gear transmitters. Wear kinds of gear transmitters. Influence of some factor on wear (materials and chemical-thermal treatment, topography, technology machining). Lubrication of gear transmitters. Characteristics of tribological processes of rolling bearings: Friction in rolling bearings. Wear kinds. Influence of some factors on wear (material, constructional solutions). Lubrication. Characteristics of tribological processes of sliding bearings: Friction in sliding bearings. Wear kinds. Influence of some factors on wear. Lubrication. Characteristics of tribological processes of chain transmitters: Wear kinds. Influence of some factors on wear. Lubrication of chains.			
<i>Practical classes</i>			
Auditory particles to establish a connection between theoretical knowledge and practical application, instructions for processing and classification results receive at measurement, analysis and measurement basic tribological parameters. In frame of studious investigative work students will be quality for basic investigations in field of this course.			
Literature			
1. G.W. Stachowiak, A.W. Batchelor: Engineering Tribology (4th ed.)Butterworths/Heinemann, Woburn (2014) 2. Stolarsky, T.A.: Tribology in Machine Design. Butterworth-Heinemann, Stoneham-London (2000)			
Number of active teaching hours			Other classes: 1
Lectures: 2	Practice: 1.6	Other forms of classes: 0.4	
Teaching methods			
Lectures, exercises, individual homework, tests and final test. Through lectures, students get basic information about theoretical basics, while through exercises the students solving the practical problems			
Examination methods (maximum 100 points)			
Exam prerequisites	No. of points:	Final exam	No. of points:
Student's activity during lectures	5	Seminars/homework	25
practical classes/tests	40	written examination	30
Grading system			
Grade	No. of points	Description	
10	91-100	Excellent	
9	81-90	Exceptionally good	
8	71-80	Very good	
7	61-70	Good	
6	51-60	Passing	
5	<51	Failing	