

Study program:	Structures and materials		
Level of study:	Undergraduate academic studies		
Course title:	Strength of Materials 2		
Teacher:	Milašinović D. Dragan		
Course Status:	Compulsory		
Credits (ECTS):	8		
Prerequisite:	Strength of Materials 1		
Course objective(s):	The purpose and goals of the course is to gain practical knowledge of the mechanical behavior of solid deformable materials and structures.		
Course outcome(s):	Realization of planned objectives.		
Course Content:			
1 st week	The stability of the beam balance, eccentric pressure of slender symmetrical columns		
2 nd week	Torsion, torsion with bending simultaneously.		
3 rd week	Stress condition at point, stress tensor, equilibrium equations.		
4 th week	Condition strain (strain rate) in point. Deformation tensor.		
5 th week	Component displacement determination from the known deformation compatibility conditions.		
6 th week	Constitutive equations.		
7 th week	Basic and complex rheological models of material behavior.		
8 th week	Energy principles and theorems.		
9 th week	The application of energy principles on beam.		
10 th week	Elastic-plastic analysis of beams.		
11 th week	Solving statically indeterminate structural systems in the elastic-plastic range.		
12 th week	The theory of thin-walled bars of undeformable open cross section.		
13 th week	Theory of dimensioning, the hypothesis of fracture.		
14 th week	Dimensioning according to the limit equilibrium theory.		
15 th week	Dynamic strength of materials.		
	Week by week practice is following lectures		
Literature:			
	1. T. Atanacković: Teorija elastičnosti, Fakultet tehničkih nauka, Novi Sad, 1993.		
	2. V. Brčić: <i>Otpornost materijala</i> , Građevinska knjiga, Beograd, 1977.		
Number of hours:			Other classes: 0
Lectures: 4	Exercises: 3	Other forms of teaching: 0	Individual research work: 0
Teaching methods:	Lectures, exercises, colloquiums, consultations		
Evaluation of knowledge (maximum 100 points)			
Pre-exam activities	points	Final exam	points
Activity during the lectures	5	Written exam	30 (min 15)
Activity during the exercises	5	Oral exam	30 (min 15)
Colloquia	30 (min 15)		