Study program:	Structures and materials
Level of study:	Undergraduate academic studies
Course title:	**Strength of Materials 1**
Teacher:	Milašinović D. Dragan
Course Status:	Compulsory
Credits (ECTS):	6
Prerequisite:	Mathematics 1 and 2, Mechanics 1 and 2

Course objective(s):
The purpose and goals of the course is to gain fundamental knowledge of mechanical behavior of solid deformable materials and structures.

Course outcome(s):
The acquired knowledge enables students to recognize and analyse stress conditions and deformations for elastic bodies on whose basis they can perform the dimensioning of elements. Students are capable to individually solve problems in the field of strength of materials.

Course Content:

1st week	Axial stresses within the limits of elasticity.
2nd week	Stress analysis.
3rd week	Deformation analysis.
4th week	Beam theory.
5th week	Geometric characteristics of flat cross sections.
6th week	Normal stresses in the girder exposed to bending.
7th week	Transverse stresses during bending.
8th week	Girder deflection.
9th week	Determining the deflection and inclination by the torque surface method.
10th week	Unsymmetrical cross-section and concept of the shear center.
11th week	Statically indeterminate girders.
12th week	Bending beams in a plane which is not the plane of symmetry
13th week	Bending beams in the main planes that are not planes of symmetry.
14th week	A complex stresses, bending with axial stress.
15th week	Determination of the neutral axis, core cross section.
	Week by week practice is following lectures

Literature:

1. V. Brčić: *Otpornost materijala*, Građevinska knjiga, Beograd, 1977.
2. D. Rajić, Ž. Bojović: *Otpornost materijala*, Zavod za udžbenike, Beograd, 1994.

Number of hours:				Other classes: 0
Lectures: **2**	Exercises: **2**	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)**		