Faculty of Mechanical Engineering / MECHANICAL ENGINEERING / STRENGTH OF MATERIALS I

Course:	STRENGTH OF MATERIALS I			
Course ID	**Course status**	**Semester**	**ECTS credits**	**Lessons** (Lessons+Exercises+Laboratory)
257	Mandatory	2	6	3+2+0
Programs	MECHANICAL ENGINEERING			
Prerequisites	None.			
Aims	Through this course students will get to know basic principles and laws of Strength od materials and their application			
Learning outcomes				
Lecturer / Teaching assistant	doc. dr Stefan Ćulafić			
Methodology	Lectures, calculation exercises, homework assignments, consultations, tests.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Geometric characteristics of plain surfaces			
I week exercises	Geometric characteristics of plain surfaces			
II week lectures	Notion of inertia moments - Steiner theorem;			
II week exercises	Notion of inertia moments - Steiner theorem;			
III week lectures	Moments of inertia of complex plain surface.1.Colloquium;			
III week exercises	Moments of inertia of complex plain surface.1.Colloquium;			
IV week lectures	Normal and tangential stresses;			
IV week exercises	Normal and tangential stresses;			
V week lectures	Linear and angular strains;			
V week exercises	Linear and angular strains;			
VI week lectures	Relations between stresses and strains; 2.Colloquium;			
VI week exercises	Relations between stresses and strains; 2.Colloquium;			
VII week lectures	Normal stresses and deformations at beams submitted to axial force loads;			
VII week exercises	Normal stresses and deformations at beams submitted to axial force loads;			
VIII week lectures	Beams submitted to moments. Stresses and strains.			
VIII week exercises	Beams submitted to moments. Stresses and strains.			
IX week lectures	Combined loading of axial force loading and moments bending loads. 3.Colloquium;			
IX week exercises	Combined loading of axial force loading and moments bending loads. 3.Colloquium;			
X week lectures	Beam submitted to transverzal forces. Stresses and strains;			
X week exercises	Beam submitted to transverzal forces. Stresses and strains;			
XI week lectures	Bends and slopes in bending forces;4. Colloquium;			
XI week exercises	Bends and slopes in bending forces;4. Colloquium;			
XII week lectures	Beams submitted to loading of moments around axial axes. Tangential stress and twisting angle.			
XII week exercises	Beams submitted to loading of moments around axial axes. Tangential stress and twisting angle.			
XIII week lectures	Bending with twisting;			
XIII week exercises	Bending with twisting;			
XIV week lectures	Bending with twisting;			
XIV week exercises	Bending with twisting;			
XV week lectures	Bending with twisting;			
XV week exercises	5. Colloquium;			

Student workload						
Per week			**Per semester**			
6 credits x 40/30=8 hours and 0 minuts 3 sat(a) theoretical classes 0 sat(a) practical classes 2 excercises **3 hour(s) i 0 minuts** of independent work, including consultations			Classes and final exam: **8 hour(s) i 0 minuts x 16 =128 hour(s) i 0 minuts** Necessary preparation before the beginning of the semester (administration, registration, certification): **8 hour(s) i 0 minuts x 2 =16 hour(s) i 0 minuts** Total workload for the subject: **6 x 30=180 hour(s)** Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) **36 hour(s) i 0 minuts** Workload structure: **128 hour(s) i 0 minuts (cources), 16 hour(s) i 0 minuts (preparation), 36 hour(s) i 0 minuts (additional work)**			
Student obligations						
Consultations						
Literature						
Examination methods			5 tests 20 points, total 100 points Positive mark requires not less than 50 points cumulatively.			
Special remarks						
Comment						
Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points