Study program: Industrial Engineering	
Course title: Mechanics 1	
Professor/assistant: PhD BobanCvetanović	
Type of course: compulsory	
ECTS credits:7	
Pre-requisites: -	

Aims of the course:
Prepare students to:
- adopt terms as force, moment, moment of force, for a point, couple;
- learn laws of force composition, equations of equilibrium of material particles exposed to actions of force;
- analyze technical problems in the field of statics within idealized models developed in mechanics of a rigid body;
- make independent analyses with emphasis to understanding problems in engineering applications;

learn how to solve practical problems in the field of statics

Learning outcomes:

Student is able to: describe and analyze problems of equilibrium of material particles, define known and unknown values in practical examples in the field of statics, make difference and recognize all terms in the field of statics, make certain algorithms for solving forces in elements of loaded structures,explain the solutions obtained for the set problems.

Syllabus
Theoretical part

Task and division of mechanics. Statics. Force. Force system. The resultant of force system. Statics axioms. Support and support reactions. System of interaction forces. Moment of force for a point. Varinjon's theorem. Couple. Static task definition. The system of arbitrary forces in the plane. System of parallel forces. Equations of equilibrium. Friction. Friction slip and rolling friction. Center of the parallel force system. The centroid of homogeneous lines and surfaces, and center of mass of bodies. Guldin's theorems. Graphostatics. Solving ofstructures (beam, brackets, beams with hooks, frame brackets) and truss structures.

Practical part

Application of theoretical knowledge in solving practical problems with the necessary instructions for solving certain types of examples

Literature
1. Rašković, D., Mehanika 1- Statika, Naučna knjiga, Beograd, 1978.
2. Stamenković, S. Statika, Viša tehnička škola, 2004.
3.Statics, R.C. Hibbeler, 12th book.

Number of active classes			Other forms of teaching:
Lectures: 2	Practical classes: 2	Research work:	

Teaching methods Combined, interactive with solving practical examples

Grading system (maximum 100 points), **grading scale**from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade7 from 61-70 points, grade8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.

Pre-exam obligations	points	Final exam	points
activity during theoretical lectures	5	written exam	30
practical training	20	oral exam	
colloquium(s)/seminar papers	35		
Sum	**70**	**Sum**	**30**