Course:	8102020 - Statics		
Course type:	Compulsary		Credit: 3
Level:	BSc		
Co-requisite(s):	Mathematics 2, Partial Differential Equations		
Prerequisite(s):	Mathematics 1		
Prerequisite by topic:			
Textbook(s):	[1] Vector Mechanics for Engineers: Statics, F.P. Beer, E.R. Johnston, Mc Graw Hill, 2003. [2] Engineering Mechanics 1: Statics; J.L. Meriam, Wiley, 2004. [3] Statics; I.H. Shames, Elsevier, 1995. [4] Statics; Mehdi Farshad, Shiraz University Press, 1974.		
Coordinator:	S. Mohammadi, Professor of Computational Mechanics, School of Civil Engineering		
Goals:	The main objective is to teach the first year students of civil engineering with the basic concepts of mechanical behaviour of stationary objects.		
Outcome:	1. A review of vector algebra, vector differentiation and integration of vector functions. 2. Computing equivalent system of forces on different points of an objects. 3. Concepts, derivation of equations and discussions of static equilibrium of an object. 4. Distributed forces, variable loadings 5. Volume and surface properties 6. Analysis of structures by equilibrium: beams, cables, trusses and frames 7. Analysis of structures by the method of virtual work		
Topics:	1. A review of vector algebra. 2. Equivalent system of forces 3. Static equilibrium 4. Distributed forces 5. Volume and surface properties 6. Analysis of trusses 7. Analysis of cables 8. Analysis of beams 9. Analysis of structures by the method of vitual work		
Computer usage:	-		

Assignments:	10 homework assignments
Projects:	-
Grading:	Assignments: 10 % Project: 10 % Midterm exam: 30 % Final exam: 50 %
Further readings:	[1] Persian translations of the main references [2] Several Persian books
Prepared by:	Soheil Mohammadi
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