UNIVERSITY OF PANNONIA

SUBJECT DATASHEET

Semester:	2010/11/2
Subject:	Technical Mechanics
Code:	VEMLGEB244M
Responsible department:	Department of Mechanical Engineering
Responsible department code:	MKGE
Responsible lecturer:	dr. Imre Timár

Educational objectives:

The unit aims to introduce some of the elementary concepts from the science of mechanics and to show how they apply to the engineering structures.

Detailed content of the subject:

Fundamental definitions of statics. Solution of examples. Equilibrium of three forces. Theorem of moment. Solution of examples. Poligon of forces, graphical methods in a plane. Solution of examples. Method of Cullmann and Ritter. Solution of examples. Rods of plane (basic concept, statical definite, strain diagrams). Solution of examples. Strain diagrams of two support rod (concentrated force and distributed force). Solution of examples. Relationship between the transverse force and the bending moment. Test. Centre of gravity of plane and bodies. Solution of examples. Geometric moments of inertia (Steiner's equation). Solution of examples. Basic idea of stress and strain. Tension, compression, shearing. Solution of examples. Bending. Solution of examples. Torsion (ring and annulus cross-section). Solution of examples. Stability of axially compressed rods. Solution of examples. Test. Solution of examples. More line complex stresses (theorems of Mohr and Huber-Mises-Hencky). Solution of examples.

Requirements:

Minimum pass mark from papers (30 %) and prepare two individual projects.

Required and suggested references:

Timár I.: Műszaki mechanika (Statika) Veszprém, 1997. Timár I.-Pálma R.: Műszaki mechanika példatár. Veszprém, 2006. Muttnyánszky Á.: Szilárdságtan, MK. Budapest, 1981.