



COURSE DATASHEET

Semester:	2014/15/2
Course:	Technical Mechanics IV.
Code:	VEMKGEB243M
Responsible department:	Institute of Mechanical Engineering
Department code:	MKGEI
Responsible instructor:	dr. Imre Timár

Course objectives:

To impart understanding and problem-solving skills in advanced vibrations theory, analysis and measurements, and to provide an introduction to vibration isolation and vibration control.

Course content:

Harmonic vibration of particle. Synthesis of the same and different frequency vibrations. Vibration of systems of one degree of freedom. Sorting of vibration systems. Calculation of spring constant. Energy of vibration systems. Calculations of eigenfrequencies with take care the mass of springs. Dissipated free vibrations. Excited vibrations, resonance. Test. Excited and dissipated vibrations. Self-excited vibrations. Non-linear vibrations. Vibration of systems of the more degrees of freedom, masses linked with springs. Free vibrations of conservative systems. Continuum masses vibrations. Alleviation of vibration and measurement of vibration. Test. Measurement of vibration (shown in laboratory).

Requirements, evaluation and grading:

Minimum pass mark from papers (30 %)

Required and recommended readings:

M.Csizmadia-Nándori: Mozgástan, Nemzeti Tk. Kiadó, Bp., 1997.; Ludvig Gy.: Gépek dinamikai problémái, Tk. Kiadó, J.4-359.