



COURSE DATASHEET

Semester:	2016/17/1
Course:	Basics of Mechanical Engineering
Code:	NKMKGET114G
Responsible department:	
Department code:	MKNK
Responsible instructor:	Dr. Sándor Verdes

Course objectives:

To give/refresh/strengthen the basic mechanical engineering knowledge connected with water treatment. Doing this for participants arriving with different study background the emphasis/details should not be the same in each teaching part.

Course content:

Basic mechanical engineering knowledge (drawings, technical terms etc.)
Joining elements, fittings.
Fixing, supporting, mounting. Structural materials, applications, consideration at selection.
Fluid mechanics. Terms, parameters, units.
Basic equations (Pascal, Bernoulli). Flow patterns, Dimensional analysis.
Pumps, descriptions, types, capacity, work-point.
Pump types, applications.
Different usage/running of two pumps. Control.
Pipes, pipe-lines, pipe systems. Mounting, specific costs.
Pressured vessels, tanks.
Mixing. Mixers, types, efficiency, selection principles, power-consumption.
Settling, sedimentation
Filtration. Two types of principle. Basic equation. Batch and continuous mode. Equipment types.
Centrifuge.
Other, connecting topics (e.g. testing, measurements etc.)

Requirements, evaluation and grading:

Written homework and presentation
Exam with written and oral part.

Required and recommended readings:

Fábry Gy.: Vegyipari gépészek kézikönyve, Műszaki Kiadó, Budapest, 1987.
Tanszéki összeállított anyag ill. az abban felsorolt további szakirodalom.



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Required and recommended readings:

Szalczinger János: Gépészeti alapismeretek, Veszprémi Egyetemi Kiadó, Veszprém, 2002.
Bálint András: Műszaki áramlástan, Veszprémi Egyetemi Kiadó, Veszprém, 2002.
továbbiak később.