Zurich University of Applied Sciences

School of Engineering

t.MKK1 - Mechanik Kinematik und Kinetik 1

Person responsible for the course:	Jürg Meier, mrjg
Credits:	3
Valid for:	2010/2011
Last saved:	16.12.2010 11:47

Learning objectives:

Formulation and solution of the motion equations of mass points and rigid bodies.
The students:
- know the basics of kinetics for planar and spatial motion of mass points and for planar motion of rigid bodies. They know where a reduction to a mass point is allowed and in which cases the problem needs to be extended to a rigid body model.
- are able to solve simple problems autonomously with and without text books
- are able to tackle and solve complex problems by common software tools
- know that it is possible nowadays to analyze very complex problems by mechanics software tools and are able to become acquainted to work with it rapidly

Course content:

Lecture: - Kinematics of a mass point - Adhesion and friction - Kinetics of a mass point
- Kinematics and kinetics of systems of mass points
- Kinematics of rigid bodies
- Kinetics of rigid bodies in a plane motion
Practice:
- Kinematics of a mass point, applications
- Kinetics of a mass point
- Kinematics of rigid bodies, applications
- Simulation of the motion of mass points and rigid bodies (by Matlab/Simulink or RecurDyn).

Previous knowledge:

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Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14x3L
Tutorial/Practicum	
Group teaching	
Block instruction	
Seminar	

Assessment:

According to the table or as specified in writing by the lecture at the beginning of the semester!

Number	Type	Weighting
1	End of term exam	60%
2	Exam during the semester	20% each
	Further assessments	

Language of instruction:

Deutsch

Instruction material:

- Technische Mechanik 3, Kinetik, D. Gross, W. Hauger, W. Schnell, J. Schröder
- Formeln und Aufgaben zur Technische Mechanik 3, D. Gross, W. Ehlers, P. Wriggers

or script of the lecturer.

Comments:

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