

t.FTH1 - Fluid- und Thermodynamik 1

Person responsible for the course: Egon Lang, lang
Credits: 4
Valid for: 2010/2011
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Learning objectives:

State the basic characteristics of a fluid
 Understand and describe simple flow phenomena
 Apply the conservation laws of mass and momentum to simple fluid flow problems
 Analyse and design simple apparatus and components

Course content:

Lecture:

- Properties of fluids
- Hydrostatics
- Conservation laws for mass and momentum in integral form for steady state flows
- Bernoulli equation with loss and work term
- Dimensional analysis and similitude, dimensionless parameters
- Internal incompressible viscous flow
- External incompressible viscous flow
- Environmental fluid flow

Practice:

- Measurement of pressure, temperature, density and viscosity
- Application of mass and momentum equation, flow visualisation
- Flow rate measurement (nozzle, orifice)

Previous knowledge:

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Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14x3L
Tutorial/Practicum	4x3.5L
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	80%
1	Exam during the semester	20%
4	Further assessments	

Language of instruction:

Deutsch

Instruction material:

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Comments:

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