

Courses in English

Course Description

Department	03 Mechanical, Automotive and Aeronautical Engineering
Course title	Fluid mechanics for Mechanical Engineers
Hours per week (SWS)	4
Number of ECTS credits	5
Course objective	The students get acquainted with terminology and modeling of fluid mechanics including hydrostatics and aerostatics (atmosphere). They become familiar with the elementary rules and their limits of applicability and should be able to apply the basic equations for analyzing and solving given technical flow processes.
Prerequisites	mathematics, mechanics
Recommended reading	Bruce Munson et al., Fundamentals of Fluid Mechanics, w. CD-ROM, Wiley and sons
Teaching methods	seminar and lab course
Assessment methods	written examination 90 minutes (30 min without scripts, 60 minutes with scripts)
Language of instruction	English
Name of lecturer	Prof. Dr. Peter Schiebener
Email	peter.schiebener@hm.edu
Link	
Course content	<ul style="list-style-type: none">• introduction to fluid mechanics• continuum• Fluid Statics• Elementary Fluid Dynamics<ul style="list-style-type: none">--Bernoulli Equation--conservation of mass--conservation of momentum• Fluid Kinematics• Finite Control Volume Analysis• Differential Analysis of Fluid Flow• Dimensional Analysis, Similitude, and Modeling• Viscous Flow in Pipes• Flow Over Immersed Bodies• Open-Channel Flow• Physical Properties of Fluids
Remarks	