

Courses in English Course Description

Department	05 Building Services Engineering, Paper and Packaging Technology and Print and Media Technology
Course title	Plant Engineering
Hours per week (SWS)	4
Number of ECTS credits	5
Course objective	<p>The overall objective of this course is to develop in the student an ability to design the elements necessary for the construction of industrial processing plants. This includes:</p> <ul style="list-style-type: none">• Overview over the elements necessary for the construction of industrial plants• Strength analysis in pressure vessel and pipe walls• Wall thickness calculations• Design of piping systems• Fluid dynamical calculations in pipes <p>Theoretical derivations & explanations are completed by calculation of numerous practical examples.</p>
Prerequisites	Dynamics, Fluid Dynamics, Thermodynamics.
Recommended reading	Grundlagen der Rohrleitungs- und Apparatechnik, 3rd edition, Vulkan-Verlag, 2009, by Rolf Herz
Teaching methods	Lecture and examples.
Assessment methods	90 minutes final exam.
Language of instruction	English
Name of lecturer	Prof. Dr.-Ing. Rolf Herz
Email	rolf.herz@hm.edu
Link	
Course content	<ol style="list-style-type: none">1. Elements of Piping Systems (ca. 2 hours)2. Drawing (ca. 2 hours)3. Loads on Walls of Pressure Vessels (ca. 6 hours)4. Wall Thickness Calculation of Pressure Vessels (ca. 12 hours)5. Support and Expansion Compensation of Pipelines (ca. 12 hours)6. Stress Analysis of Pipes (ca. 6 hours)7. Fluid Dynamics in Pipelines (ca. 12 hours)8. Plant Examples (ca. 8 hours)
Remarks	