

Department	03 Mechanical, Automotive and Aeronautical Engineering
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 and selection of pumps and compressors• Fluid dynamical calculations in pipes <p>Theoretical derivations & explanations are completed by calculation of numerous practical examples.</p>
Prerequisites	Technical Mechanics I+II, Machine Elements I, Fluid Mechanics
Recommended reading	Book: R. Herz: Grundlagen der Rohrleitungs- und Apparatechnik, 4. Auflage, Vulkan-Verlag, 2014 Necessary material and practice exercise will be provided by the lecturer via moodle.
Teaching methods	Lecturing plus in-class group problem-solving activities.
Assessment methods	Exam according to the legal framework of the degree program in which this course is offered. Approved aides for the examination will be published by means of the examination announcement.
Language of instruction	English
Name of lecturer	Prof. Rainer Annast
Email	rainer.annast@hm.edu
Link	
Course content	<ul style="list-style-type: none">• Materials• Elements of Piping Systems and Drawing• Loads on Walls of Pressure Vessels• Wall Thickness Calculation of Pressure Vessels Support and Expansion Compensation of Pipelines• Stress Analysis of Pipes• Fluid Dynamics in Pipelines and selection of pumps and compressors
Remarks	