

Courses in English

Course Description

Department	05 Building Services Engineering, Paper and Packaging Technology and Print and Media Technology
Course title	HVAC Technology in the U.S.
Hours per week (SWS)	online
Number of ECTS credits	3
Course objective	<p>The overall objective of this course is to develop in the student an understanding of the technology and design methodologies used in the United States HVAC (heating, ventilating and air-conditioning) industry. The student will learn about common HVAC system types in the U.S. and some of the factors that affect design decisions, such as climate, thermal comfort, and codes and standards. The student will learn basic design procedures for water and air distribution systems.</p> <p>German students have the opportunity to get familiar with the English Engineering vocabulary in the field of Building Services Engineering.</p>
Prerequisites	Fundamentals of Thermodynamics and Heat Transfer (useful but not mandatory)
Recommended reading	
Teaching methods	<p>This class is taught online.</p> <p>There is one meeting of the entire class in person with the instructor at the beginning of the semester (to clarify the procedure of the class) and one at the end of the semester to prepare for the exam.</p> <p>All contents of the class are published online on Moodle.</p> <p>The contents are presented in about 30 videos, each between about 3 and 10 minutes long. The slides of the presentations are also published in pdf format, thus forming the basis of the class contents. The understanding of the contents is tested by a list of questions and calculation examples. The answers to the questions and the results of the examples are posted weekly. Thus, the class follows a continuous study plan.</p> <p>Contact with the instructor is possible anytime electronically, in person one time per week during office hour or additionally by appointment.</p>
Assessment methods	Written final exam, 90 minutes
Language of instruction	English
Name of lecturer	Prof. Dr.-Ing. Rolf Herz
Email	herz@hm.edu
Link	
Course content	<ul style="list-style-type: none">• Engineering Units• Review of Fundamentals of Thermodynamics• Review of Fundamentals of Heat Transfer• HVAC System Types• Standards, Codes, and Guidelines• HVAC System Types• Psychrometrics• Thermal Comfort• Load Calculations• Ducting and Fans• Piping and Pumps
Remarks	