

Courses in English Course Description

Department	02 Civil Engineering
Course title	Modern Monuments in Worldwide Civil Engineering
Hours per week (SWS)	4
Number of ECTS credits	0
Course objective	The students shall get familiar with extraordinary structures and techniques in the world, making them conscious of the potentialities in civil engineering and encouraging them in their further studies. The students will be also trained in lingual and social competence in order to be able to discuss projects and their execution in international teams using special English terminology of civil engineering.
Prerequisites	Basic knowledge in technical mechanics; level B1 in English
Recommended reading	Lecture script (units 1 to 8 (available in MOODLE)
Teaching methods	Lectures, tutorials
Assessment methods	Short presentation (usually by powerpoint, 10 min duration)
Language of instruction	English
Name of lecturer	Prof. Dr.-Ing. Günter Gäßler
Email	guenter.gaessler@hm.edu
Course content	<ul style="list-style-type: none"> ~ Invention of reinforced concrete by Monier and its material properties ~ Marina City - a fascinating modern concrete construction in Chikago ~ Highlights of suspension bridges worldwide: e.g. Brooklyn Bridge and Golden Gate Bridge in USA, Störe Belt Bridge in Denmark, Akashi-Kaikyo-Bridge in Japan, three Bosphoros Bridges in Turkey ~The Tacoma Narrows Suspension Bridges in USA - Collapse of the first one, rebuilding of two new ones ~ Gigantic massive concrete arch dams: Hoover Dam in USA, Three Gorges Dam in China ~ Hydroelectric power plants: Walchensee in Germany, Itaipu in Brazil (also with electrical installations) ~ Invention and developement of a new method in ground engineering: Soil Nailing; ~ One of the largest soil nailing projects worldwide along a high speed railway line in Southern Germany ~ The rise of urban steel-framed constructions in New York, e.g. Empire State Building, Freedom Tower
Remarks	All lectures are illustrated by photographs (mostly personally taken on site), documentary films as well as Powerpoint presentations. All English texts of the various units are also translated into German, some of them also into French. Special exercises to articulate mathematical equations, functions, and techn. units.