



Number of Module	Name of Module	Lecturer
BIWE-13	BIM-Based Virtual Engineering Lab	Prof. Scherer
Content and qualification aim	<p>Content of the module:</p> <ul style="list-style-type: none">• Relational and object-oriented data structures in Building Information Modeling (BIM)• Multi models and link models• Filtering of engineering information• Visualization methods for engineering information• Integration of numerical tools (web services)• Grid/Cloud access (web services)• Optimization and system identification strategies in grid/cloud• Modeling strategies for holistic civil engineering problems <p>Qualification:</p> <p>Students will be able to have a holistic view on complex civil engineering problems. They are able to holistically model the problems and properly structure them in sub problems to identify the appropriate software tools, their interaction and establish the right integrated information and simulation system to analyze them, carry out optimization from different views and undertake system identification, e.g. for monitoring approaches.</p>	
Type of course	2 hours of lectures, 1 hour of exercise per week, and self-study	
Requirements for study	Basic knowledge in relational or object-oriented data structures and knowledge from modules BIWO-03 and BIWO-05	
Practical use of the module	The module is one of the elective modules of the Master's programme: Advanced Computational and Civil Engineering Structural Studies, of which seven have to be chosen.	
Requirements for the award of credits	<p>The credits are awarded if the module examination is successfully passed.</p> <p>The module examination consists of a written examination (90 min).</p>	
Credits and grades	<p>4 credits can be acquired for this module.</p> <p>The grade is the grade of the written examination.</p>	
Frequency of module	The module is offered every academic year (summer semester).	
Workload	The workload is 120 working hours.	
Duration of the module	1 semester	
Recommended literature	Chuck Eastman: BIM Handbook, Wiley, 2011	