

<b>Module number</b>	<b>Module name</b>	<b>Module coordinator</b>
BIW-MA-AC-E-07	Building Physics	Prof. Dr. John Grunewald john.grunewald@tu-dresden.de
		Weitere Dozierende: Dr. Peggy Freudenberg peggy.freudenberg@tu-dresden.de
<b>Learning goals</b>	The students are able to apply internationally available and the institute's own software models in the subject areas of indoor climate, coupled heat, air and moisture transport (HAMT) processes in envelope constructions, integral building simulation - energy and hygrothermics. The students are made aware of ecological and related social topics and have a knowledge of environmentally relevant scientific facts.	
<b>Content</b>	The contents of the module include subject areas on indoor climate such as comfort and indoor air quality, pollutant emissions, external and internal climatic loads, user behaviour, overheating protection and warm climate zones, coupled heat, air and moisture transport (HAMT) processes in envelope constructions, in particular hygrothermal dimensioning of construction details, Aspects of durability, damage potential and protective measures, protection of structural cultural assets and the built environment, integral building simulation - energy and hygrothermics in the development of building physics models, passive and active measures for storing energy and moisture in structural components, energetic optimisation of buildings in relation to their environment.	
<b>Teaching and learning methods</b>	2 SWS lecture, 1 SWS exercise, self-study.	
<b>Prerequisites</b>	The knowledge acquired in the first semester in the module Mentoring Program on Study and Methodological Competence is assumed.	
<b>Applicability</b>	The module is one of twelve mandatory elective modules in the Master's program Advanced Computational and Civil Engineering Structural Studies - ACCESS, five of which must be chosen.	
<b>Requirements for earning credit points</b>	The credit points are obtained when the module examination is passed. The module examination consists of a written examination lasting 180 minutes. The exam language is English.	
<b>Credit points and grades</b>	Five credit points can be obtained through the module. The module grade corresponds to the grade of the exam performance.	
<b>Module frequency</b>	The module is offered every summer semester.	
<b>Workload</b>	The total workload is 150 hours.	
<b>Module duration</b>	The module covers one semester.	

<b>Recommended reading list</b>	H. Hens: Building Physics and Applied Building Physics, Ernst & Sohn; 2. Edition. 2012.
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