Module number	Module name	Module coordinator
BIW-MA-AC-E-03	Timber and lightweight structures	Prof. Dr. Richard Stroetmann stahlbau@tu-dresden.de
Learning goals	The students have an overview of central and fundamental topics, work and application fields of timber and lightweight structures. They are able to create designs in the field of timber and lightweight structures, carry out important calculations and evaluate constructions. Thus, they can analyse and evaluate complex problems of the subject as well as weigh up options for action and assess consequences. The students are able to act responsibly in this area.	
Content	Contents of the module are – the resource situation and processing methods of raw timber into sawn timber and hollow materials, their physical and mechanical properties as well as the resulting constructive consequences, – craftsmanship and technical connections in timber construction, – Basics of the calculation of simple components and connections, – timber modifications and composite constructions with concrete as well as fibers and textiles, – selected examples of timber buildings, – the state of the art of timber construction with its specific aspects and the historical timber construction, – the reconstruction and rehabilitation of timber construction, – the stability, material fatigue and fatigue strength of steel constructions, – different types of ropes, their manufacture and connection technology, – different areas of application as well as the dimensioning and construction of rope structures and - the special features of supporting structures made of textile membranes and foils combined with steel construction elements.	
Teaching and learning methods	2 SWS lecture, 1 SWS tutorial, Self study.	
Prerequisites	The knowledge to be acquired in the Building Materials modules and the knowledge to be acquired in the first semester of the Study and Methodological Skills Mentoring Program module are assumed.	
Applicability	The module is one of twelve elective modules in the master's program Advanced Computational and Civil Engineering Structural Studies - ACCESS, five of which must be chosen.	
Requirements for earning credit points	The credit points are acquired when the module examination is passed The module examination comprises a 150-minute written test. The examination language is English.	

Credit points and grades	Five credit points can be acquired through the module. The module grade is equivalent to the examination grade.
Module frequency	The module is offered every summer semester.
Workload	The total workload is 150 hours.
Module duration	The module covers one semester.