

Module number	Module name	Module coordinator
BIW-MA-AC-E-02	Form Finding of Lightweight Structures	Prof. Dr. Matthias Beckh structural.design@tu-dresden.de
Learning goals	Students will master selected form finding methods for lightweight structures in theory and in practical application. The focus is on shell structures, cable nets and membrane structures subject to tensile stress.	
Content	The module will cover various strategies and form finding methods for lightweight structures subject to membrane forces. The course comprises an introduction to the conceptual design, static calculation and structural design of lightweight structures as well as an introduction to theoretical foundations of different form finding methods. In addition, the module contains both theoretical principles and practical applications.	
Teaching and learning methods	1 SWS lecture, 2 SWS exercise, and self-study.	
Prerequisites	The knowledge to be acquired in Building Materials, Continuum Mechanics, Tensor Calculus, Energy Methods, Finite Element Method, and the Mentoring Study Competence module in the first semester is required.	
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	Credit points are awarded upon passing the module examination. The module examination consists of a portfolio of 85 hours. The examination language is English.	
Credit points and grades	Five credit points can be acquired through the module. The module grade corresponds to the grade of the examination performance.	
Module frequency	The module is offered every summer semester.	
Workload	The workload is 150 hours in total.	
Module duration	The module covers one semester.	
Recommended reading list	Sigrid Adriaenssens, Philippe Block, Diederik Veenendaal: Shell Structures for Architecture: Form Finding and Optimization. Taylor and Francis. 2014.	