Module name	**Multifield issues**
Module number	CMS-TRK-MP
Senior Lecturer	Prof. Dr. Thomas Wallmersperger thomas.wallmersperger@tu-dresden.de
Qualification objectives	Students master the basis for studying and calculating multifunctional structures or structural elements and the fundamental relationships for mathematical description of mechanical, thermal and electrical phenomena in deformable bodies. Students are able to describe and calculate active structures.
Contents	The content of the module is the behaviour and formulation of various active materials and the calculation of exemplary applications of multifunctional structures, basic equations of the continuum mechanics and their extension to other physical phenomena, as well as the modelling of field problems that link different physical phenomena.
Forms of teaching and learning	The module includes lectures of 2 SWS, exercises of 2 SWS and self-study. The language of the lectures and exercises will be English.
Eligibility for participation	Knowledge of linear agebra, numerics of differential equations and technical mechanics at bachelor's level is required.
Usability	The module is a mandatory module in track computational engineering in the Masters Course Computational Modeling and Simulation. In the Masters Course Computational Modeling and Simulation, the module is a compulsory voting module in Track Computational Life Science, to be selected in accordance with Annex 2 to the Specific Examination Regulations. The module cannot be chosen in the Master's Course Computational Modeling and Simulation if this or a module with substantially the same content from a Course with which the entry conditions under § 3 of the Studienordnung have been met has already been completed. The module provides the pre-requisites for the modules it designates under the pre-requisites for participation.
Conditions for the award of credits	Credits are awarded when the module test is passed. The module test consists of a 120-minute away day. The language of the test will be English.
Credits and marks	The module allows 5 credit points to be obtained. The module score corresponds to the test performance score.
Frequency of the module	The module is offered every summer semester.
Workload	The total workload is 150 hours.
Duration of the module	The module covers 1 semester.