Only the german version of the module description as part of the study regulations is legally binding.

Module name	**Model-driven automation**
Module number	INF-25-Ma-FCP-MA
Responsible lecturer	Prof. Dr. Martin Wollschlaeger martin.wollschlaeger@tu-dresden.de
Qualification objectives	Students are familiar with the basic structure and information models of Cyber Physical Systems (CPS) in industrial applications. They are able to apply and link these models to describe complex CPS-based production systems and to independently develop components of such systems. Students can transfer the models and their elements to similar fields of application.
contents	Contents of the module are methods for modeling cyber physical systems in industrial automation. These relate to process, function, component and information models of industrial practice for the modeling of CPS. Further contents are multi-model concepts and the generation of applications as well as tool chains and domain-specific description languages.
Forms of teaching and learning	The module includes lectures in the scope of 3 SWS, exercises in the scope of 1 SWS and self-study. The teaching language of the lectures and the exercises can be German or English and will be specified by the lecturer at the beginning of each semester and announced in the usual way.
Requirements for participation	In the Computer Science degree program, the competencies to be acquired in the modules INF-25-Ma-FCP-CPS Foundations of Cyber Physical Systems, INF-25-Ba-SWT Software Technology, INF-25-Ba-DMF Data Management Foundations, INF-25-Ba-SWWTP Software Technology Project and INF-25-Ba-AI Artificial Intelligence are required.
usability	The module is a compulsory elective module in the field of Cyber Physical Systems in the diploma course Computer Science in the main course of study, which must be chosen in accordance with Annex 2 to the examination regulations. The module in the Master's program Computer Science is a compulsory elective module in the Open Track in the subject area Cyber Physical Systems as well as the supplement, which must be selected in accordance with Annex 2 to the examination regulations. The module can only be selected once in the Master's programme Computer Science. In the Master's programme in Media Informatics, the module is a compulsory elective module in the field of supplementary modules, which must be chosen in accordance with Section 27(3) of the Examination Regulations. The module cannot be selected in the Master's degree program Computer Science and the Master's degree program Media Informatics if this or a substantially identical module from a degree program with which the admission requirements according to § 3 of the study regulations have been fulfilled, has already been completed. The module creates the prerequisites for the modules, which it names under

	prerequisites for participation.
Conditions for awarding credits	The credit points are earned when the module examination has been passed. The module examination consists of a non-public oral examination performance as an individual examination of 30 minutes duration. The language of the examination can be German or English and will be specified by the lecturer at the beginning of each semester and announced in the usual manner.
Credits and grades	6 credit points can be earned through the module. The module grade corresponds to the grade of the examination performance.
Frequency of the module	The module is offered every summer semester.
workload	The total workload is 180 hours.
Duration of the module	The module covers one semester.