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

Module name	**Foundations of Concurrent and Distributed Systems**
Module number	INF-25-Ma-FSC-FCDS
Responsible lecturer	Prof. Dr. Christof Fetzer christof.fetzer@tu-dresden.de
Qualification objec-Tives	Students are able to analyze applications that can run on parallel and distributed systems and use their computing capacities efficiently and completely. They understand how data inconsistencies can arise due to concurrency and can apply appropriate principles that increase concurrency and the associated performance while at the same time guaranteeing data consistency.
Content	The content of the module is the efficient use of the computing power of modern CPUs through the simultaneous/parallel use of the cores. This includes in particular the basics of parallel and distributed systems me, which are required for the development of parallel and distributed applications on such processors. In addition to theoretical basics, fundamental aspects of the development g of parallel high-performance programs are also included.
Teaching and learning methods	The module comprises lectures of 4 SWS and self-study. The teaching language of the lectures is English .
Prerequisites for par-ticipation	The competencies to be acquired in the INF-25-Ma-FSA-SE Systems Engineering module are a prerequisite for the Computer Science degree program.
Applicability	The module is a compulsory elective module in the Diploma program in Computer Science in the main course of study in the subject area of Secure Computing, which must be selected in accordance with Annex 2 to the examination regulations. In the Master's degree program in Computer Science, the module is a compulsory elective module in the Op en Track in the subject area of Secure Computing and the Supplement, which must be selected in accordance with Annex 2 to the Examination Regulations, and in the Distributed Systems Engineering Track, which must be selected in accordance with Annex 3 to the Examination Regulations. The module can only be selected once in the Master's degree program in Computer Science . The module cannot be selected in the Master's degree program in Computer Science if this module or a module with essentially the same content from a degree program in which the admission requirements according to Section 3 of the study regulations have already been met has already been completed. The module creates the prerequisites for the modules listed under prerequisites for participation hme.
Requirements for earning credit points	The credit points are earned if the module examination is passed. The module examination consists of a non-public oral examination as an individual examination lasting 30 minutes. The examination language is English.

Credit points and grades	6 credit points can be earned through the module. The module grade corresponds to the grade of the examination.
Module frequency	The module is offered every summer semester.
Workload	The total workload is 180 hours.
Module duration	The module comprises one semester.