

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

Module name	Structure and Operation Principle of Processors
Module number	INF-25-Ma-FTI-SOP
Responsible lecturer	Dr. Robert Schöne robert.schoene@tu-dresden.de
Qualification objectives	Students are able to evaluate different processors and computer systems, analyze their functionality and determine characteristics through system-related programming. They know interfaces for determining and configuring processor properties, are able to use them and evaluate the resulting implications.
Content	The module covers programming interfaces and the microarchitectures of selected processors, including the possibilities for optimizing sequential and parallel programs as well as the development trends in processor architecture.
Teaching and learning methods	The module comprises lectures of 2 SWS, exercises of 1 SWS, practicals of 1 SWS and self-study. The language of instruction for the lectures, exercises and practicals may be German or English and will be specified by the lecturer at the beginning of each semester and announced in the usual manner.
Prerequisites for participation	In the Diploma program in Computer Science, the competencies to be acquired in the modules INF-25-Ba-RA Computer Architecture and Hardware Laboratory and INF-25-Ba-BS Operating Systems are a prerequisite. In the Master's degree course in Computer Science, knowledge of the structure of processors and computer systems and the functioning of important components of processors as well as system-related programming and operating systems at Bachelor level is required.
Applicability	The module is a compulsory elective module in the Computer Engineering and High Performance Computing subject area in the main course of the Diplom degree program in Computer Science, 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 open track in the subject area of Computer Engineering and High Performance Computing and the supplement, which must be selected in accordance with Annex 2 to the Examination Regulations. The module can only be chosen once in the Master's degree program Computer Science. The module cannot be selected in the Master's degree program in Computer Science if this module or a module with the same content from a degree program in which the admission requirements according to § 3 of the study regulations have been fulfilled has already been completed. The module fulfills the prerequisites for the modules listed under prerequisites for participation.
Requirements for	The credit points are earned if the module examination is passed. The

earning credit points	module examination consists of a non-public oral examination as an individual examination lasting 20 minutes. The examination language may be German or English and will be specified by the lecturer at the beginning of each semester and announced in the usual manner.
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.