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

Module name	**Performance Analysis of Computing Systems**
Module number	INF-25-Ma-FTI-PACS
Responsible lecturer	Prof. Dr. Wolfgang Nagel wolfgang.nagel@tu-dresden.de
Qualification objec-Tives	Students know the terminology of performance evaluation and can use it confidently in technical discussions and are able to develop and evaluate performance experiments. They can safely use queueing or simulation models.
Content	Contents of the module are basic techniques from the application areas of statistics, probability theory, experimental design, simulation and queueing theory based on practical problems emstellungen.
Teaching and learning methods	The module comprises lectures of 2 SWS, exercises of 2 SWS and the self bststudium. The language of instruction for the lectures and exercises is English.
Prerequisites for par-ticipation	In the Diploma degree course in Computer Science, the Bachelor's degree course in Computer Science and the Bachelor's degree course in Applied Computer Science, the skills to be acquired in the modules INF-25-Ba-Prg Programming and RoboLab and INF-25-Ba-BS Operating System eme are required. In the Master's degree program in Computer Science, programming skills in an imperative programming language such as C, C++, Java, Fortran or Python are required as well as knowledge of using a Unix command line environment at Bachelor's level. The following literature is suitable for preparation: TU Dresden, ZIH HPC Compendium, Systems Benchmarking: For Scientists and Engineers, S. Kounev, K. Lange, J. Kistowski, Springer, 2020 (ISBN: 3-030-41704-8), Measuring Computer Performance. A Practitioner's Guide, David J. Lilja. Cambridge University Press, 2000 (ISBN: 0-521-64105-5), The Art of Comp uter Systems Performance Analysis, Raj Jain. Wiley, 1991 (ISBN: 0-471-50336-3), Programming: principles and practice using C++, Bjarne Stroustrup. Addison-Wesley, 2014, The Linux Command Line, 2nd Ed., W.E. Shotts. No Starch Press, 2019.
Applicability	The module is a compulsory elective module in the subject area Computer Engineering and High Performance Computing in the Diploma degree program in Computer Science in the main course of study, which must be selected in accordance with Annex 2 to the examination regulations. In the Bachelor's degree program in Informa tics, the module is a compulsory elective module in the subject area of specialization, which must be selected in accordance with the appendix to the examination regulations. In the Bachelor's degree course in Applied Computer Science, the module is a compulsory elective module in the specialization in Media Informatics and in the specialization in Medical Informatics, which must

	be selected in accordance with the annex to the examination regulations. In the Master's degree program in Comp uter Science, the module is a compulsory elective module in the open track in the subject area of Computer Engineering and High Performance Computing 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 degree program in Computer Sci ence. The module cannot be chosen 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 § 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 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 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 winter semester.
Workload	The total workload is 180 hours.
Module duration	The module comprises one semester.