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

Module name	**Scheduling theory**
Module number	INF-25-Ma-FSA-STH
Responsible lecturer	Prof. Dr. Horst Schirmeier horst.schirmeier@tu-dresden.de
Qualification goals	The students are familiar with the mathematical modeling of real-time systems with periodic and non-periodic tasks. They can model these using tools such as queuing theory, job networks, and resource servers to prove the schedulability of task sets and the optimality of algorithms with respect to schedulability , as well as to make statements about their suitability for specific application scenarios.
Contents	The module covers the mathematical foundations of real-time systems, techniques for their analysis, and proofs of key properties. This includes classical scheduling theory with deterministic and probabilistic models, as well as real-time systems with a focus on periodic task sets.
Teaching and learning methods	The module comprises lectures totaling 2 semester hours per week and self-study. The language of instruction for the lectures is German.
Requirements for participation	The competencies acquired in the module INF-25-Ba-BS Operating Systems are required.
Applicability	In the Diploma program in Computer Science, this module is an elective module in the field of Systems Architecture, to be selected according to Appendix 2 of the examination regulations. In the Master's program in Computer Science, this module is an elective module in both the Open Track and the supplementary track within Systems Architecture, to be selected according to Appendix 2 of the examination regulations, as well as in the Distributed Systems Engineering Track, to be selected according to Appendix 3 of the examination regulations. This module can only be selected once in the Master's program in Computer Science. This module cannot be selected in the Master's program in Computer Science if this module, or a substantially equivalent module from a degree program that fulfills the admission requirements according to § 3 of the study regulations , has already been completed. This module fulfills the prerequisites for the modules listed under "Prerequisites for Participation."
Requirements for earning credit points	Credit points are awarded upon successful completion of the module examination. The module examination consists of a 30-minute, private oral examination conducted individually. The examination language is German.
Credit points and grades	Three credit points can be earned through this module. The module grade corresponds to the grade for the examination.
Frequency of the module	The module is offered every summer semester.

Workload	The total workload is 90 hours.
Module duration	The module lasts one semester.