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

Module name	**Algorithms and Data Structures**
Module number	INF-25-Ba-AuD
Responsible lecturer	Prof. Dr. László Kozma laszlo.kozma@tu-dresden.de
Qualification objectives	Students are familiar with important algorithmic problems and are familiar with the basic approaches to solving these problems. They can convert these approaches into concrete algorithms using suitable data structures and analyze their formal properties.
contents	Contents of the module are sorting and search problems as algorithmic questions as well as problems for graphs and trees, solution approaches to part and master procedures, dynamic programming, recursion as well as backtracking and various methods for the formal analysis of the complexity of algorithms.
Forms of teaching and learning	The module includes lectures in the scope of 2 SWS, exercises in the scope of 2 SWS and self-study. The teaching language of the lectures and exercises is German.
Requirements for participation	In the diploma program Computer Science, in the bachelor program Computer Science and in the bachelor program Applied Computer Science, the competencies to be acquired in the modules INF-25-Ba-Ma1 Linear Algebra and Analysis and INF-25-Ba-Prg Programming and RoboLab are required.
usability	The module is a compulsory module in the Computer Science undergraduate degree programme. The module is a compulsory module in the Bachelor's programme in Computer Science and the Bachelor's programme in Applied Computer Science. 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 exam consists of a 90-minute exam. The language of the exam is German.
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.