

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

Module name	Security
Module number	INF-25-Ba-Si
Responsible lecturer	Prof. Dr. Florian Tschorsch florian.tschorsch@tu-dresden.de
Qualification objectives	Students have the basic skills to identify security risks, analyze them and design appropriate protective measures. In particular, they can name protection goals and carry out attacker modeling. They understand the basic principles and mechanisms of symmetric and asymmetric cryptographic methods. They also have basic knowledge in the field of data protection and can name requirements and mechanisms of action.
Content	The module covers the basics of IT security in general and data security and data protection in particular. This includes typical vulnerabilities, attacker models, protection goals and their interdependencies, as well as various types of security mechanisms and protocols for enforcing protection goals. The module also covers the basic principles of cryptographic processes.
Teaching and learning methods	The module comprises lectures of 2 SWS, exercises of 2 SWS and the self-study. The language of instruction for the lectures and exercises is German.
Prerequisites for participation	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 competences to be acquired in the modules INF-25-Ba-Ma1 Linear Algebra and Analysis, INF-25-Ba-Ma2 Discrete Structures and INF-25-Ba-AuD Algorithms and Data Structures are required.
Applicability	The module is a compulsory module in the Diploma degree program in Computer Science in the foundation course. The module is a compulsory module in the Bachelor's degree course in Computer Science and in the Bachelor's degree course in Applied Computer Science. The module creates the prerequisites for the modules that name it among the 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 written examination lasting 90 minutes. The examination language is German.
Credit points and grades	5 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 150 hours.
Module duration	The module comprises one semester.

