

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

Module name	Computer networks
Module number	INF-25-Ba-RN
Responsible lecturer	Prof. Dr. Matthias Wählich matthias.waehlich@tu-dresden.de
Qualification objectives	Students know the layered architecture of computer networks and understand the basic functionalities of data transmission, networking, switching and transporting data as well as the functionality of networked applications and services. They are able to evaluate alternative technologies, protocols and mechanisms for computer networks, select them systematically and combine them appropriately . Students can apply the basic theoretical concepts in practice and are able to set up and configure a network in principle.
Content	The module covers the basics of computer networks according to the system of the layer model for open communication systems. These include the fundamentals of transmission technology, the principles of networking, efficient and secure data transmission and the applications and services based on them.
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 German.
Prerequisites for participation	Mathematical skills and the ability to think methodically, as acquired in the modules INF-25-Ba-Ma1 Linear Algebra and Analysis and INF-25-Ba-Ma2 Discrete Structures, are required. In addition to m, the competences to be acquired in the modules INF-25-Ba-Prg Programming and RoboLab, INF-25-Ba-AuD Algorithms and Data Structures, INF-25-Ba-BS Operating Systems and INF-25-Ba-SWT Software Technology are a prerequisite with regard to the basic terms, basic algorithms and architectural concepts of computer science.
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 and an ungraded portfolio of 30 hours. Bo nusleistung zur Klausurarbeit ist das Lösen von Praktikumsaufgaben im Umfang von 15 Stunden. The examination language of the written examination is German. The examination language of the portfolio 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	5 credit points can be earned through the module. The module grade is calculated from the unweighted average of the grades of the individual examinations, taking into account Section 15 (1) sentence 6 of the examination regulations.
Module frequency	The module is offered every summer semester.
Workload	The total workload is 150 hours.
Module duration	The module comprises one semester.