

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

Module name	IoT Communication
Module number	INF-25-Ma-FSA-IoT
Responsible lecturer	Prof. Dr. Matthias Wählich matthias.waehlich@tu-dresden.de
Qualification objectives	Students have a qualified understanding of how to design, implement and evaluate communication solutions for networks with low-resource end devices. Students can apply the basic theoretical concepts in practice and are able to set up and configure an IoT network in principle and develop applications for it.
Content	The module covers the basics and new approaches for communication between resource-poor devices and the Internet as well as between devices themselves. This includes network architectures, protocols, services and applications. The focus is on open solutions and standards that allow global communication between a wide range of network participants.
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 may be German or English and will be specified by the lecturer at the beginning of each semester and announced in the usual manner.
Prerequisites for participation	In the Diploma degree program in Computer Science, the Bachelor's degree program in Computer Science and the Bachelor's degree program in Applied Computer Science, the competencies to be acquired in the modules INF-25-Ba-Prg Programming and RoboLab, INF-25-Ba-RN Computer Networks and INF-25-Ba-SWT Software Technology are required.
Applicability	The module is a compulsory elective module in the field of Systems Architecture in the Diploma degree course in Computer Science in the main study program, which is to be selected in accordance with Appendix 2 to the examination regulations. In the Bachelor's degree program in Computer Science, the module is a compulsory elective module in the subject area n specialization, which must be selected in accordance with the appendix to the examination regulations. In the Bachelor's degree program in Applied Informatics, 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 Computer Science, the module is a compulsory elective module in the Open Track in the subject area of Systems Architecture and the supplement, which must be selected in accordance with Annex 2 to the examination regulations and in the Distributed Systems Engineering Track, which must be selected in accordance with Annex 3 to the examination regulations. The module can only be chosen once in the

	Master's degree program in Computer Science. The module cannot be selected 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 already been met has already been completed. The module creates 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 written examination lasting 90 minutes and an ungraded portfolio of 30 hours. The examination language of the portfolio and the written examination 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 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 winter semester.
Workload	The total workload is 180 hours.
Module duration	The module comprises one semester.