

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

Module name	Industrial Internet of Things
Module number	INF-25-Ma-FCP-IIoT
Responsible lecturer	Prof. Dr. Martin Wollschlaeger martin.wollschlaeger@tu-dresden.de
Qualification objectives	Students are familiar with the fundamental architectures, technologies and principles of the Internet of Things for applications in industrial automation. They are able to derive typical requirements for the use of such systems in complex networked production systems, select suitable technologies and design application-specific solutions. Students can transfer the characteristics of the Industrial Internet of Things to novel application systems, apply them integrately and develop components of such systems independently.
contents	Contents of the module are architectural concepts and technologies of the Internet of Things with a focus on industrial applications. This includes requirements from the application domain and the evaluation of technologies and solutions for networking and application. Further contents are the design of suitable software components for industrial use as well as developments and trends for novel systems.
Forms of teaching and learning	The module includes lectures in the scope of 2 SWS, internships in the scope of 2 SWS and self-study. The teaching language of the lectures and the internships can be German or English and will be specified by the lecturer at the beginning of each semester and announced in the usual manner.
Requirements for participation	In the graduate 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-SWT Software Technology, INF-25-Ba-DMF Data Management Foundations and INF-25-Ba-AI Artificial Intelligence are required.
usability	The module is a compulsory elective module in the field of Cyber Physical Systems in the diploma course Computer Science in the main course of study, which must be chosen in accordance with Annex 2 to the examination regulations. In the Bachelor's programme in Computer Science, the module is a compulsory elective module of specialisation, which must be chosen in accordance with the annex to the examination regulations. The module in the Bachelor's programme in Applied Computer Science is a compulsory elective module in the specialisation in Media Informatics and in the specialisation in Medical Informatics, which must be chosen in accordance with the annex to the examination regulations. The module in the Master's program Computer Science is a compulsory elective module in the Open Track in the subject area Cyber Physical Systems as well as the supplement, which must be selected in accordance with Annex 2 to the examination regulations. The module can

	only be selected once in the Master's programme Computer Science. In the Master's programme in Media Informatics, the module is a compulsory elective module in the field of supplementary modules, which must be chosen in accordance with Section 27(3) of the Examination Regulations. The module cannot be selected in the Master's degree program Computer Science and the Master's degree program Media Informatics if this or a substantially identical module from a degree program with which the admission requirements according to § 3 of the study regulations have been fulfilled, has already been completed. 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 examination consists of a non-public oral examination performance as an individual examination of 30 minutes duration. The language of the examination can be German or English and will be specified by the lecturer at the beginning of each semester and announced in the usual manner.
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 winter semester.
workload	The total workload is 180 hours.
Duration of the module	The module covers one semester.