

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

Module name	Service and Cloud Computing
Module number	INF-25-Ma-FSA-SCC
Responsible lecturer	Dr. Iris Braun iris.braun@tu-dresden.de
Qualification objectives	Students are familiar with the fundamentals and challenges of service-oriented applications in distributed systems. They are able to apply this knowledge independently and transfer it to unknown problems by being able to design and implement service-oriented applications or architectures for distributed systems and to analyse, evaluate and optimize existing systems.
Content	The module covers the fundamentals and challenges of service-oriented applications and architectures of distributed systems, including, for example, the distribution of services, composition of distributed service-oriented applications, load balancing, redundancy and selected security aspects. The module covers solution concepts and technologies for the development of service-oriented architectures and applications for distributed systems, particularly in the context of cloud computing.
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 program in Computer Science, the competencies to be acquired in the modules INF-25-Ba-Prg Programming and RoboLab, INF-25-Ba-RN Computer Networks, INF-25-Ba-SWT Software Technology, INF-25-Ba-BS Operating Systems and INF-25-Ba-DMF Data Management Foundations 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 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 is to be selected in accordance with Annex 2 to the examination regulations. The module can only be selected once in the Master's degree program in Computer Science. The module cannot be selected in the Master's degree course in Computer Science if this module

	or a module with essentially the same content from a degree course in which the admission requirements according to Section 3 of the study regulations have already been met has already been completed. The module creates the prerequisites for the modules that specify 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 complex course of 90 hours. The examination language 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 corresponds to the grade of the examination.
Module frequency	The module is offered every winter semester.
Workload	The total workload is 180 hours.
Module duration	The module comprises one semester.