

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

Module number	Module name	Responsible lecturer or responsible lecturer
INF-DSE-20-M-DSMC	Ubiquitous systems	Chair of Distributed and Networked Systems netd-teaching@tu-dresden.de
Qualification objectives	Participants will be familiar with the design, structure and requirements of distributed applications and mobile communication networks. They have an insight into the challenges of distributed applications in mobile networks and are enabled to analyze and evaluate distributed applications for both static and mobile environments, as well as to independently develop and implement such systems. Participants also have a fundamental understanding of how to disassemble extensive monolithic applications into their individual parts in order to be able to design scaling, distributed systems. They are aware of the problems of distributed applications, which arise especially in mobile networks, and can avoid them in the future, transferred to unknown use cases.	
contents	The module covers the problems, concepts and solutions for the development of distributed systems. The focus is on elementary basic principles and basic techniques as well as current standards. Furthermore, the basics of mobile communication and its applications in the field of mobile computing are the subject of the module. In addition to the transmission basics of radio networks, typical standards and network concepts, the module in the field of application support includes software architectures for mobile computing and distributed systems. Further content of the module is an outlook on future high-performance mobile networks and their applications.	
Forms of teaching and learning	The module includes lectures in the scope of 4 SWS and exercises in the scope of 2 SWS as well as self-study.	
Requirements for participation	Knowledge and skills from the fields of computer networks and database systems at bachelor level are required.	
usability	The module is a compulsory module in the Master's programme Distributed Systems Engineering. It creates the prerequisites for the modules Internship, Engineering Adaptive Mobile Applications and Across the Disciplines of Distributed Systems Engineering.	
Conditions for awarding credits	The credit points are earned when the module examination has been passed. The module examination consists of an exam work of 120 minutes duration.	

Credits and grades	7 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 workload is 210 hours.
Duration of the module	The module covers one semester.