

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

Module name	Knowledge models
Module number	INF-25-Ma-FTK-KM
Responsible lecturer	Prof. Dr. Markus Krötzsch markus.kroetzsch@tu-dresden.de
Qualification objectives	Students have basic knowledge in dealing with formal knowledge models and master methods for their creation, processing and analysis. They are able to use knowledge models in applications and understand the theoretical background of the problems to be solved and the relevant algorithms in this context.
contents	Contents of the module are basics and methods of modeling large knowledge stocks including their management and analysis, exchange formats and ontology languages, knowledge organization, constraints, ontologies, quality assurance, analysis of knowledge models, logical closing, requests, data mining, structural analysis as well as applications of knowledge models.
Forms of teaching and learning	The module includes lectures in the scope of 2 SWS, exercises in the scope of 2 SWS and self-study. The teaching language of the lectures and exercises is English.
Requirements for participation	In the degree program Computer Science and in the bachelor program Computer Science, the modules INF-25-Ba-AuD Algorithms and Data Structures, INF-25-Ba-AuB Automata and Predictability Theory, INF-25-Ba-LuK Logic and Complexity, INF-25-Ba-Ma1 Linear Algebra and Analysis, INF-25-Ba-Ma2 Discrete Structures, INF-25-Ba-Ma3 Algebra, INF-25-Ba-Ma4 Probability Theory and Statistics, INF-25-Ba-DMF Data Management Foundations, INF-25-Ba-SWT Software Technology and INF-25-Ba-AI Artificial Intelligence can be acquired. The Master's programme in Computer Science and the Master's programme in Media Informatics assume competences in the basics of algorithm design, formal languages, theoretical computer science and statement and predicate logic, as well as knowledge of mathematics at the Bachelor's level.
usability	The module is a compulsory elective module in the field of Theoretical Computer Science and Symbolic Artificial Intelligence in the master's degree programme Computer Science, 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 Master's programme Computer Science is a compulsory elective module in the Open Track in the subject area Theoretical Computer Science and Symbolic Artificial Intelligence as well as 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 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 20 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.