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

Module name	**Large language models**
Module number	INF-25a-Ma-FTK-LLM
Responsible lecturer	Prof. Dr. Simon Razniewski simon.razniewski@tu-dresden.de
Qualification objectives	Students have basic knowledge of building, training and applying large language models. They master methods for the development, analysis and evaluation of such models and understand the theoretical, empirical, and ethical foundations. They are able to use and critically reflect on large language models in various application contexts.
contents	Contents of the module are architecture, training methods and applications of large language models, including transformer models, pretraining and finetuning, prompting techniques, evaluation methods, security and ethical issues, as well as the use and analysis of large language models in various fields of application of natural language processing.
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 Computer Science degree program, the competencies to be acquired in the modules INF-25-Ba-AuD Algorithms and Data Structures, INF-25-Ba-Ma1 Linear Algebra and Analysis, INF-25-Ba-Ma4 Probability Theory and Statistics, 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 Visual Computing and Machine Learning 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. The module in the Master's programme Computer Science is a compulsory elective module in the Open Track in the field of Visual Computing and Machine Learning and 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. The module cannot be selected in the Master's program Computer Science 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 exam consists of a 90-minute exam. Bonus performance for the exam work is a project work in the amount of 15 hours. The language of the exam is English.

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.