

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

Module name	Prediction and Estimation Techniques
Module number	INF-25-Ma-FSA-PET
Responsible lecturer	Dr. Waltenegus Dargie waltenegus.dargie@tu-dresden.de
Qualification objectives	Students are familiar with probabilistic prediction and estimation techniques. They are able to apply and evaluate these in the context of distributed dynamic adaptive systems.
contents	Contents of the module are the basics of probabilistic prediction and estimation techniques, including the introduction and combination of random variables, the minimization of uncertainty, and the concept of minimum mean square estimation.
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	The competences to be acquired in the modules INF-25-Ba-RN Computer Networks, INF-25-Ba-SWT Software Technology, INF-25-Ba-DMF Data Management Foundations and INF-25-Ba-AI Artificial Intelligence are required in the Computer Science Diploma Programme.
usability	The module is a compulsory elective module in the field of Systems Architecture 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 subject area Systems Architecture and the Supplement, which is to be selected in accordance with Annex 2 to the Examination Regulations, and in the Distributed Systems Engineering Track, which is to be selected in accordance with Annex 3 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 exam consists of a 90-minute exam. 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.