Module name	**Touch Sensing and Processing**
Module number	CMS-TRK-TSP
Senior Lecturer	Prof. Dr. Roberto Calandra roberto.calandra@tu-dresden.de
Qualification objectives	Students have in-depth knowledge of touch-sensing and touch-processing techniques. They can implement these techniques autonomously in an algorithmic manner. They can apply these algorithms in practice, to specific touch-sensing hardware and to specific problems, and are able to empirically quantitatively investigate the algorithms in relation to the application.
Contents	The content of the module is basic touch-sensing psychology, touch-sensing hardware, touch-sensing simulation, touch-sensing, touch-processing, touch-based control, touch-sensing applications, touch-processing and touch-based control.
Forms of teaching and learning	The module includes lectures of 2 SWS, exercises of 2 SWS and self-study. The language of the lectures and exercises will be English.
Eligibility for participation	No conditions are required.
Usability	In the Computational Modeling and Simulation Masters Course, the module is a compulsory voting module in Track Visual Computing, Track Applied Artificial Intelligence and Track Computational Engineering, to be selected in accordance with Annex 2 to the Specific Examination Regulations. The module cannot be chosen in the Master's Course Computational Modeling and Simulation if this or a module with substantially the same content from a Course with which the entry conditions under § 3 of the Studienordnung have been met has already been completed. The module provides the pre-requisites for the modules it designates under the pre-requisites for participation.
Conditions for the award of credits	Credits are awarded when the module test is passed. The module test consists of a portfolio of 10 hours. The language of the test will be English.
Credits and marks	The module allows 5 credit points to be obtained. The module score corresponds to the test performance score.
Frequency of the module	The module is offered every winter semester.
Workload	The total workload is 150 hours.
Duration of the module	The module covers 1 semester.
Module name	**Team Assignment Computational Metrology**

Module number	CMS-TRK-TEA-CM
Senior Lecturer	Prof. Dr. Jürgen Czarske juergen.czarske@tu-dresden.de
Qualification objectives	Students are able to work on a complex research-related project that requires competences from several fields of computer-based measurement technology and to solve a larger, typically interdisciplinary, task within a group, from the field of computer-based measurement technology intelligence. Students are proficient in literature research and the use of scientific sources of information, and have both in-depth expertise and wide-ranging methodological and interpersonal skills in project management and teamwork.
Contents	The content of the module is to analyse and solve a problem in the field of computer-based measurement research, for example by means of physical or numerical experiments using deep neural networks to solve the inverse problem.
Forms of teaching and learning	The module includes 8 SWS projects and self-study. The language of the projects will be English.
Eligibility for participation	No knowledge is required.
Usability	In the Computational Modeling and Simulation Masters Course, the module is a compulsory voting module in the Track Applied Artificial Intelligence, to be selected in accordance with Annex 2 to the Specific Examination Regulations. The module cannot be chosen in the Master's Course Computational Modeling and Simulation if this or a module with substantially the same content from a Course with which the entry conditions under § 3 of the Studienordnung have been met has already been completed. The module provides the pre-requisites for the modules it designates under the pre-requisites for participation.
Conditions for the award of credits	Credits are awarded when the module test is passed. The module test consists of a complex performance of 60 hours. The language of the test will be English.
Credits and marks	The module allows for the award of 10 credit points. The module score corresponds to the test performance score.
Frequency of the module	The module is offered every semester.
Workload	The total workload is 300 hours.
Duration of the module	The module covers 1 semester.