Module name	**Introduction to Computational Aerodynamics**
Module number	CMS-TRK-Aero
Senior Lecturer	Prof. Dr. Sabine Roller sabine.roller@tu-dresden.de
Qualification objectives	Students have a basic understanding of flow mechanics and aerodynamics for external flows, such as wings. Students are familiar with basic numeric methods of simulating compressible currents and the limits of their operability, such as panel methods, as well as the bases of numeric discretisation for three-dimensional external flows, such as finite volume methods, coupled with approximative Riemann locks. Students have a basic understanding of parallel computing architectures and the implementation of numerical PDES loesses on them.
Contents	The content of the module is based on the principles of flow mechanics and aerodynamics, numerical Vexperience to solve the equations that occur in them, and translating these into high-performance computers.
Forms of teaching and learning	The module includes lectures of 3 SWS, exercises of 1 SWS and self-study. The language of the lectures and exercises will be English.
Eligibility for participation	No knowledge is required.
Usability	In the Masters Course Computational Modeling and Simulation, the module is a compulsory optional module in Track Computational Engineering and in Track Computational Life Science, 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 90-minute away day. 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.