Module name	**Applied bioinformatics**
Module number	CMS-TRK-ABI
Senior Lecturer	Prof. Dr. Michael Schroeder michael.schroeder@tu-dresden.de
Qualification objectives	Students master the methodological foundations of sequence analysis and other bioinformatic algorithms. They are aware of key algorithms and can classify, analyse and assess them in terms of objectives and efficiency.
Contents	The content of the module is the basis of the sequence comparison, in particular algorithms such as Levenshtein Distance, Dynamic Programming, Global and Local Alignment, Substitution Matrices and Multiple Sequencealignment.
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	Basic knowledge of computer programming, basic cell and molecular biology, probability calculation and statistics at bachelor's level are required.
Usability	The module is a compulsory module in the Computational Modeling and Simulation Masters Course in Track Computational Life Science. 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 summer semester.
Workload	The total workload is 150 hours.
Duration of the module	The module covers 1 semester.