Module name	**Literature Studies in Mathematical Biology**
Module number	CMS-SEM-MB
Senior Lecturer	Prof. Dr. Andreas Deutsch andreas.deutsch@tu-dresden.de
Qualification objectives	Students are familiar with publications on mathematical biology concepts, can critically evaluate them and discuss them with regard to the choice of model formalities used. They are aware of the explicit or implicit model assumptions and inherent limitations of the model formalities used.
Contents	The module covers mathematical biology, in particular theoretical analyses and mathematical models, and the principles governing the structure, development and behaviour of biological systems. Other content includes non-linear dynamics, pattern building, self-organisation, evolution and machine learning.
Forms of teaching and learning	The module includes seminars of 2 SWS and self-study. The language of the seminars will be English.
Eligibility for participation	Knowledge of common differential equations, partial differential equations, agent-based models and bachelor-level numerical simulation algorithms is required.
Usability	In the Masters Course Computational Modeling and Simulation, the module is a compulsory optional module of basic scientific methodological training, to be chosen in accordance with Annex 1 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 50 hours. The language of the test will be English.
Credits and marks	The module allows for 3 credit points. 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 90 hours.
Duration of the module	The module covers 1 semester.