

<b>Module title</b>		<b>Abbreviation</b>
Modeling and Simulation		10-I-MuS-212-m01
<b>Module coordinator</b>		<b>Module offered by</b>
holder of the Professorship for modeling and simulation		Institute of Computer Science
<b>ECTS</b>	<b>Method of grading</b>	<b>Only after succ. compl. of module(s)</b>
5	numerical grade	--
<b>Duration</b>	<b>Module level</b>	<b>Other prerequisites</b>
1 semester	undergraduate	--
<b>Contents</b>		
Modeling and simulation play a central role in computer science and in the natural sciences for the analysis of systems. The module includes basic modeling paradigms, basics of simulation (discrete, continuous, hybrid, parallel), its implementation and evaluation.		
<b>Intended learning outcomes</b>		
The students learn the basics of various modeling formalisms and types of simulations as well as their application. They will acquire the skills to translate these systems into models for given problems and tasks, to develop simulation scenarios with suitable software, and to carry out and analyze simulation studies.		
<b>Courses</b> (type, number of weekly contact hours, language – if other than German)		
V (2) + Ü (2)		
<b>Method of assessment</b> (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)		
written examination (approx. 60-120 minutes) if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 15 minutes) creditable for bonus		
<b>Allocation of places</b>		
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<b>Additional information</b>		
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<b>Workload</b>		
150 h		
<b>Teaching cycle</b>		
Teaching cycle: every year, winter semester		
<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)		
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<b>Module appears in</b>		
Bachelor' degree (1 major) Computer Science und Sustainability (2021)		