

Module title		Abbreviation
Theory of complexity		10-I-KT-072-m01
Module coordinator		Module offered by
holder of the Chair of Computer Science IV		Institute of Computer Science
ECTS	Method of grading	Only after succ. compl. of module(s)
8	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
Complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems.		
Intended learning outcomes		
[Version 1: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, general relationships between space and time classes, memory consumption versus computation time, determinism versus indeterminism, hierarchical theorems, translation methods, P-NP problem, completeness problems, Turing reduction, interactive proof systems.] [Version 2: The students possess a fundamental and applicable knowledge in the areas of complexity measurements and classes, memory consumption versus computation time, determinism versus indeterminism, P-NP problem, completeness problems, lower bounds, Boolean hierarchy, polynomial time hierarchy, complexity of parallel algorithms and complexity of probabilistic algorithms.]		
Courses (type, number of weekly contact hours, language — if other than German)		
V + Ü (no information on SWS (weekly contact hours) and course language available)		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)		
written examination (80 minutes) or oral examination (one candidate each: 20 minutes, groups of 2: 30 minutes, groups of 3: 40 minutes)		
Allocation of places		
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Additional information		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Bachelor' degree (1 major) Computer Science (2007) Bachelor' degree (1 major) Mathematics (2008) Bachelor' degree (1 major) Mathematics (2007) Bachelor' degree (1 major) Computational Mathematics (2009)		