Module title			Abbreviation
Automata Theory			10-I=AUT-212-m01
Module coordinator		**Module offered by**	
Dean of Studies Informatik (Computer Science)		Institute of Computer Science	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	graduate	--	

Contents

Finite automata, regular languages, star-free languages, natural equivalence relations, predicate logic with words, language acceptance through monoids, syntactic monoid, predicate logical and algebraic characterisation of regular languages and star-free languages, two-way automata.

Intended learning outcomes

The students possess a fundamental and applicable knowledge in the areas of finite automata, regular languages, star-free languages, natural equivalence relations, predicate logic with words, language acceptance through monoids, syntactic monoid, predicate logical and algebraic characterisation of regular and star-free languages, two-way automata.

Courses (type, number of weekly contact hours, language — if other than German)

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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 (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
creditable for bonus
Language of assessment: German and/or English
Assessment offered: In the semester in which the course is offered and in the following semester

Allocation of places

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Additional information

Focuses available for students of the Master's programme Informatik (Computer Science, 120 ECTS credits): AT,IT,ES,HCI,GE

Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Master's degree (1 major) Computer Science (2021)
Master's degree (1 major) Computational Mathematics (2022)
Master's degree (1 major) Mathematics (2022)
Master's degree (1 major) Computer Science (2023)
Master's degree (1 major) Computational Mathematics (2024)
Master's degree (1 major) Mathematics (2024)

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