

<b>Module title</b>		<b>Abbreviation</b>
Computability Theory		10-I=BER-102-m01
<b>Module coordinator</b>		<b>Module offered by</b>
Dean of Studies Informatik (Computer Science)		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	graduate	Admission prerequisite to assessment: exercises (type and scope to be announced by the lecturer at the beginning of the course).
<b>Contents</b>		
Gödel numbering, computable functions, decidable and countable sets, halting problem, m-reducibility, creative and productive sets, relative computability, Turing reduction, countable degrees, arithmetic hierarchy.		
<b>Intended learning outcomes</b>		
The students possess a fundamental and applicable knowledge in the areas of Gödel numbers, countable functions, decidable and countable sets, halting problem, m-reducibility, creative and productive sets, relative computability, Turing reduction, countable degrees, arithmetic hierarchy.		
<b>Courses</b> (type, number of weekly contact hours, language – if other than German)		
V + Ü (no information on SWS (weekly contact hours) and course language available)		
<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. 50 to 60 minutes); if announced by the lecturer by four weeks prior to the examination date, the written examination can be replaced by an oral examination of one candidate each or an oral examination in groups (one candidate each: 15 minutes, groups of 2: 20 minutes, groups of 3: 25 minutes) Language of assessment: German, English if agreed upon with the examiner		
<b>Allocation of places</b>		
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<b>Additional information</b>		
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<b>Workload</b>		
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<b>Teaching cycle</b>		
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<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)		
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<b>Module appears in</b>		
Master's degree (1 major) Mathematics (2012) Master's degree (1 major) Computational Mathematics (2012) First state examination for the teaching degree Gymnasium Computer Science (2009)		