Module title	Abbreviation
Computability Theory	10-I=BER-152-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

Gödel numbering, computable functions, decidable and countable sets, halting problem, m-reducibility, creative and productive sets, relative computability, Turing reduction, countable degrees, arithmetic hierarchy.

Intended learning outcomes

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.

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

V (2) + Ü (2)

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).
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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

§ 22 II Nr. 3b

Module appears in

First state examination for the teaching degree Gymnasium Computer Science (2015)