

Module title		Abbreviation
Graphs and Discrete Optimization		10-I-GudO-212-m01
Module coordinator		Module offered by
holder of the Professorship for optimization under resource constraints		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	undergraduate	--
Contents		
We deal with algorithms for well-known graph problems such as round-trip problems, maximum flow, matching, coloring, and planar graphs. We study methods of discrete optimization; for example, how to model graph problems as (integer) linear programs.		
Intended learning outcomes		
The students are able to model typical problems of computer science as graph problems and discrete optimization. Students can decide which tools from the module help to solve a given problem algorithmically.		
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. 60-120 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) 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		
Teaching cycle: every year, summer semester		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		
Bachelor' degree (1 major) Computer Science und Sustainability (2021)		