

<b>Module title</b>		<b>Abbreviation</b>
Algorithms and Data Structures Level One Course		10-I-GADS-152-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>
10	numerical grade	--
<b>Duration</b>	<b>Module level</b>	<b>Other prerequisites</b>
1 semester	undergraduate	--
<b>Contents</b>		
Design and analysis of algorithms, recursion vs. iteration, sort and search methods, data structures, abstract data types, lists, trees, graphs, basic graph algorithms, programming in Java.		
<b>Intended learning outcomes</b>		
The students are able to independently design algorithms as well as to precisely describe and analyse them. The students are familiar with the basic paradigms of the design of algorithms and are able to apply them in practical programs. The students are able to estimate the run-time behaviour of algorithms and to prove their correctness.		
<b>Courses</b> (type, number of weekly contact hours, language – if other than German)		
V (4) + Ü (2)		
<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. 60 to 120 minutes) or oral examination of one candidate each (approx. 20 minutes) or oral examination in groups of 2 candidates (approx. 15 minutes per candidate) creditable for bonus		
<b>Allocation of places</b>		
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<b>Additional information</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>		
Bachelor's degree (1 major, 1 minor) Digital Humanities (Minor, 2015) Bachelor's degree (2 majors) Digital Humanities (2015) First state examination for the teaching degree Realschule Computer Science (2015) Bachelor' degree (1 major) Business Information Systems (2016) Bachelor's degree (1 major, 1 minor) Digital Humanities (2016) Bachelor's degree (1 major, 1 minor) Digital Humanities (2018) Bachelor's degree (1 major, 1 minor) Digital Humanities (Minor, 2018) Bachelor's degree (2 majors) Digital Humanities (2018) Bachelor' degree (1 major) Business Information Systems (2019) Bachelor' degree (1 major) Business Information Systems (2020)		