

<b>Module title</b>		<b>Abbreviation</b>
Cryptography/Coding Theory		10-M=VKRY-192-m01
<b>Module coordinator</b>		<b>Module offered by</b>
Dean of Studies Mathematik (Mathematics)		Institute of Mathematics
<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	graduate	--
<b>Contents</b>		
Error detection and error correction, linear codes, channel coding theorems of Shannon, classical and contemporary codes, bounds, network codes, connections to cryptography.		
<b>Intended learning outcomes</b>		
The student is acquainted with fundamental concepts, methods and results in coding theory and cryptography, is able to classify these results within more general theories and knows about the connections of coding theory and cryptography with other fields of mathematics.		
<b>Courses</b> (type, number of weekly contact hours, language – if other than German)		
V (4) + Ü (2) Module taught in: German and/or English		
<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)		
a) written examination (approx. 90 to 120 minutes, usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, 15 minutes per candidate) Language of assessment: German and/or English Assessment offered: Only when announced in the semester in which the courses are offered and in the subsequent semester creditable for bonus		
<b>Allocation of places</b>		
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<b>Additional information</b>		
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<b>Workload</b>		
300 h		
<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) Computational Mathematics (2019) Master's degree (1 major) Mathematics (2019) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's degree (1 major) Mathematical Physics (2020) Master's degree (1 major) Computational Mathematics (2022) Master's degree (1 major) Mathematics (2022) Master's degree (1 major) Mathematical Physics (2022) exchange program Mathematics (2023)		



Master's degree (1 major) Computational Mathematics (2024)  
Master's degree (1 major) Mathematics (2024)