

<b>Module title</b>		<b>Abbreviation</b>
Stochastics for Teaching Degree (German Gymnasium)		10-M-STL-152-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>
6	(not) successfully completed	--
<b>Duration</b>	<b>Module level</b>	<b>Other prerequisites</b>
1 semester	undergraduate	--
<b>Contents</b>		
Discrete statistics, in particular stochastic modelling, motivation of conceptualisation and discussion of basic assumptions: basic notions of descriptive statistics, discrete probability spaces, random variables, important discrete distributions, elements of combinatorics, principle of inclusion and exclusion, multistage experiments, conditional probability, stochastic independence, common distributions, expected value and variance, covariance and correlation, waiting time problems, law of the large numbers, central limit theorem, confidence intervals and statistical tests in binomial models, stochastic paradoxes.		
<b>Intended learning outcomes</b>		
The student is acquainted with fundamental concepts and methods of stochastics, as required for teaching at German Gymnasium. He/She is able to assess stochastic phenomena correctly and handle the concept of statistical significance.		
<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)		
a) written examination (approx. 90 to 180 minutes, usually chosen) or b) oral examination of one candidate each (15 to 30 minutes) or c) oral examination in groups (groups of 2, 10 to 15 minutes per candidate) Language of assessment: German and/or English creditable for bonus		
<b>Allocation of places</b>		
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<b>Additional information</b>		
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<b>Workload</b>		
180 h		
<b>Teaching cycle</b>		
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<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)		
§ 73 I Nr. 3 (3 ECTS credits) § 73 I Nr. 5 (3 ECTS credits)		
<b>Module appears in</b>		
First state examination for the teaching degree Gymnasium Mathematics (2015)		
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