Module title
Stochastics 1

Abbreviation
10-M-ST1-082-m01

Module coordinator
Dean of Studies Mathematik (Mathematics)

Module offered by
Institute of Mathematics

ECTS
8

Method of grading
numerical grade

Only after succ. compl. of module(s)
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Duration
1 semester

Module level
undergraduate

Other prerequisites
Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

Contents
Combinatorics, Laplace models, selected discrete distributions, elementary measure and integration theory, continuous distributions: normal distribution, random variable, distribution function, product measures and stochastic independence, elementary conditional probability, characteristics of distributions: expected value and variance, limit theorems: law of large numbers, central limit theorem.

Intended learning outcomes
The student is acquainted with fundamental concepts and methods in stochastics, applies these methods to practical problems and knows about the typical fields of application.

Courses
V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment
written examination (approx. 90 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. 30 minutes)
Language of assessment: German, English if agreed upon with the examiner

Allocation of places
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Additional information
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Referred to in LPO I (examination regulations for teaching-degree programmes)
§ 73 (1) 3. Mathematik Stochastik

Module appears in
Bachelor’s degree (1 major) Computer Science (2010)
Bachelor’s degree (1 major) Mathematics (2008)
Bachelor’s degree (1 major) Economathematics (2009)
Bachelor’s degree (1 major) Economathematics (2008)
Bachelor’s degree (1 major) Mathematical Physics (2009)
Bachelor’s degree (1 major) Computational Mathematics (2009)
Bachelor’s degree (1 major, 1 minor) Mathematics (Minor, 2008)
First state examination for the teaching degree Gymnasium Mathematics (2009)