

Georg-August-Universität Göttingen		6 C 4 WLH
Module M.WIWI-QMW.0016: Spatial Statistics		
Learning outcome, core skills: Upon completion of the module, the students have acquired the following competencies: <ul style="list-style-type: none"> familiarity with basic concepts and examples of stochastic processes, possibilities to include spatial information in statistical models, experience in the practical analysis of spatial data • Interpretation of the results of spatial analyses. 		Workload: Attendance time: 56 h Self-study time: 124 h
Course: M.WIWI-QMW.0016.Lec Spatial Statistics (Lecture) <i>Contents:</i> Stochastic processes in discrete and continuous time, Wiener process, Poisson process, Markov chains, statistical analysis of spatially oriented data, spatial models for point-referenced data (geostatistics, kriging), spatial models for regional data (Markov random fields), spatial point processes, spatial stochastic processes, statistical inference in spatial statistics.		2 WLH
Course: M.WIWI-QMW.0016.Ex Spatial Statistics (Exercise) <i>Contents:</i> Stochastic processes in discrete and continuous time, Wiener process, Poisson process, Markov chains, statistical analysis of spatially oriented data, spatial models for point-referenced data (geostatistics, kriging), spatial models for regional data (Markov random fields), spatial point processes, spatial stochastic processes, statistical inference in spatial statistics.		2 WLH
Examination: Written examination (90 minutes) or oral examination (ca. 20 minutes) M.WIWI-QMW.0016.Mp: Spatial Statistics		6 C
Examination requirements: The students show in the exam that they have learned to perform the basic steps and calculations involved in analyses of stochastic processes and spatial data. They can choose the most appropriate model for a given problem and can implement this model in statistical software. In addition, the resulting estimates can be interpreted and the results can be critically evaluated. The exam covers contents of both the lecture and the exercise class.		
Admission requirements: none	Recommended previous knowledge: Basic knowledge of statistical modelling using linear regression models M.WIWI-QMW.0002 Advanced Statistical Inference (Likelihood & Bayes)	
Language: English	Person responsible for module: Prof. Dr. Elisabeth Bergherr	
Course frequency: once a year	Duration: 1 semester[s]	

Number of repeat examinations permitted: twice	Recommended semester: 2 - 3
Maximum number of students: not limited	
Additional notes and regulations: The actual examination will be published at the beginning of the semester.	