

Georg-August-Universität Göttingen		10 C 6 WLH
Module M.Mat.0741: Advanced practical course in stochastics		
<p>Learning outcome, core skills:</p> <p>Learning outcome:</p> <p>After having successfully completed the module, students have deepened and expanded their knowledge of a stochastic simulation and analysis software that they acquired in the module "Practical course in stochastics". They have acquired advanced knowledge in project work in stochastics. They</p> <ul style="list-style-type: none"> • autonomously implement and interpret more complex stochastic problems using suitable software; • autonomously write more complex programs using suitable software; • master some advanced methods of statistical data analysis and stochastic simulation like e. g. kernel density estimation, the Bootstrap method, the creation of random numbers, the EM algorithm, survival analysis, the maximum-penalized-likelihood estimation and different test methods. <p>Core skills:</p> <p>After having successfully completed the module, students will be able to</p> <ul style="list-style-type: none"> • handle practical problems with the aid of advanced stochastic methods and the suitable stochastic simulation and analysis software and present the obtained results well; • use advanced visualisation methods for statistical data (e. g. of spatial data); • apply different algorithms to the suitable stochastic problem. 		<p>Workload:</p> <p>Attendance time: 84 h</p> <p>Self-study time: 216 h</p>
Course: M.Mat.0741.Lab Advanced practical course in stochastics (Internship)		6 WLH
<p>Examination: Presentation (appr. 30 minutes) and term paper (max. 50 pages not counted appendices)</p> <p>M.Mat.0741.Mp: Advanced practical course in stochastics</p> <p>Examination prerequisites:</p> <p>Regular participation in the practical course</p>		10 C
<p>Examination requirements:</p> <p>Special knowledge in stochastics, especially mastery of complex stochastic simulation and analysis software as well as methods for data analysis</p>		
<p>Admission requirements:</p> <p>none</p>	<p>Recommended previous knowledge:</p> <p>M.Mat.3140</p>	
<p>Language:</p> <p>English</p>	<p>Person responsible for module:</p> <p>Dean of studies</p>	
<p>Course frequency:</p> <p>each winter semester</p>	<p>Duration:</p> <p>1 semester[s]</p>	
<p>Number of repeat examinations permitted:</p> <p>twice</p>	<p>Recommended semester:</p> <p>Master: 1 - 3</p>	

Maximum number of students:	
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not limited	
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Additional notes and regulations:
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Instructor: Lecturers at the Institute of Mathematical Stochastics
