Course Programme TMS165/MSN600 Stochastic Calculus Part I, 5 credits, 1st quarter Fall 2006

Responsible Teacher. Patrik Albin (lectures 1-12), room 3072 Mathematica Sciences, email `palbin@math.chalmers.se`, tel. 31 772 3512.

Other Teachers. Stig Larsson (lectures 13-14), room 2078, email `stig@math.chalmers.se`, tel. 31 772 3543. Daniel Ahlberg and Ottmar Cronie (exercise sessions and examination of hand-ins), room 3070, email `md1ahlda@math.chalmers.se` and `ottmar@math.chalmers.se`, tel. 31 772 5379.

Responsible University Unit. Department of mathematical Statistics, Mathematica Sciences, Chalmers Tvärgata 3. Expedition: see the `www`-pages of the department.

Literature. *Fima C. Klebaner: Introduction to Stochastic Calculus with Applications, Second Edition.* NOTE: You should have Second Edition from 2005, not the first one from 1999. There are problems with the delivery of the book to Chalmers' book store Cremona, so it seems that, at the moment, students have to order the book themselves, which is perfectly possible, and gives a good price. Until students recive their books, teachers will help them with copies etc.

   Additional notes on numerical methods will be distributed during lectures. Additional exercises, to those in Klebaner's book, will be distributed during exercise sessions.

Language. The course is given in english.

Content of Course. Chapters 1-5 in Klebaner's book. Additional notes on numerical methods.

Examination is handled by Daniel Ahlberg and Ottmar Cronie (albeit Patrik is the formal examiner), through hand-ins. Help with the hand-ins are offered by Daniel and Ottmar. The grades on the course will be based on the quality of the hand-ins.

   It is an outspoken intention that every student that is reasonably well prepared and reasonably well motivated should have a lot of positive things to get from the course. All such students should also pass the examination. If in doubt about anything of this, please contact Patrik.

Admission and Registration. Students that have not been admitted to the course or registered for it are very welcome anyway! Advice on how to register will be offered by Patrik at the lectures.

Lectures. Room MVF:31, Mathematical Sciences Tuesdays and Wednesdays 3.15-5 pm.

Schedule	Day	Preliminary Programme
Lecture 1	Tuesday 5 September	Sections 1.1 - 1.5 in Klebaner's book
Lecture 2	Wednesday 6 September	Sections 1.5 - 2.1 in Klebaner's book
Lecture 3	Tuesday 12 September	Sections 2.1 - 2.2 in Klebaner's book
Lecture 4	Wednesday 13 September	Sections 2.3 - 2.5 in Klebaner's book
Lecture 5	Tuesday 19 September	Sections 2.6 - 3.1 in Klebaner's book
Lecture 6	Wednesday 20 September	Sections 3.2 - 3.6 in Klebaner's book
Lecture 7	Tuesday 26 September	Sections 3.6 - 3.12 in Klebaner's book
Lecture 8	Wednesday 27 September	Sections 3.13 - 4.1 in Klebaner's book
Lecture 9	Tuesday 3 October	Sections 4.1 - 4.4 in Klebaner's book
Lecture 10	Wednesday 4 October	Sections 4.4 - 4.8 in Klebaner's book
Lecture 11	Tuesday 10 October	Sections 5.1 - 5.5 in Klebaner's book
Lecture 12	Wednesday 11 October	Sections 5.6 - 5.8 in Klebaner's book
Lecture 13	Tuesday 17 October	Numerical methods
Lecture 14	Wednesday 18 October	Numerical methods

Exercises. Room MVF:31, Mathematical Sciences, Fridays 3.15-5 pm.

   A separate programme for the exercises will be distributed by Daniel and Ottmar. Exercises from Klebaner's book will be used together with additional exercises that are distributed.