Course Programme TMS170/MSN610 Stochastic Calculus Part II, 5 credits, 2nd quarter Fall 2006

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

Other Teachers. Daniel Ahlberg and Ottmar Cronie (exercises and examination of hand-ins), room 3070, email md1ahlda@math.chalmers.se and ottmar@math.chalmers.se, tel. 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.

Language. The course is given in english.

Content of Course. Chapters 6-14 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.

Upon request, there will also be a possibility to pass the course by doing a single greater project, that is suited to students particular research interests. Please contact Patrik Albin about this.

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 Mondays and Wednesdays 3.15-5 pm.

Schedule	Day	Programme
Lecture 1	Monday 30 October 3.15 pm	Chapter 6 in Klebaner
Lecture 2	Wednesday 1 November 3.15 pm	Chapter 6 in Klebaner
Lecture 3	Monday 6 November 3.15 pm	Chapters 6-7 in Klebaner
Lecture 4	Wednesday 8 November 3.15 pm	Chapter 7 in Klebaner
Lecture 5	Monday 13 November 3.15 pm	Chapters 7-8 in Klebaner
Lecture 6	Wednesday 15 November 3.15 pm	Chapter 8 in Klebaner
Lecture 7	Monday 20 November 3.15 pm	Applications/Modelling I
Lecture 8	Wednesday 22 November 3.15 pm	Chapter 8 in Klebaner
Lecture 9	Monday 27 November 3.15 pm	Chapter 9 in Klebaner
Lecture 10	Wednesday 29 November 3.15 pm	Chapters 9-10 in Klebaner
Lecture 11	Monday 4 December 3.15 pm	Chapter 10 in Klebaner
Lecture 12	Wednesday 6 December 3.15 pm	Applications/Modelling II
Lecture 13	Monday 11 December 3.15 pm	Applications/Modelling III
Lecture 14	Wednesday 13 December 3.15 pm	Applications/Modelling IV

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.

The last two weeks of the course will focus on applications of stochastic calculus. The exercise sessions and hand-ins for this part of the course are planned to involve practical model.