Course Programme TMS165/MSA350 Stochastic Calculus, 7.5 credits, 1st quarter Fall 2014

Responsible teacher. Patrik Albin (Lectures 1-18), room L3072, email `palbin @ chalmers.se`, tel. 31 772 3512.

Other teacher. Stig Larsson (Lectures 19-21), room L2078, email `stig @ chalmers.se`, tel. 31 772 3543.

Course web-page. `http://www.math.chalmers.se/Stat/Grundutb/CTH/tms165/1415/`

Responsible university unit. Department of Mathematical Statistics, Mathematical Sciences, Chalmers Tvärgata 3. Expedition: Monday-Friday 9 am - 1 pm.

Literature. *Fima C. Klebaner: Introduction to Stochastic Calculus with Applications, Third Edition 2012*, available from Cremona Chalmer's bookshop. (The parts of the third edition we use do not differ from the second edition which can thus be used without any problems whatsoever.) A few theoretical additions to Klebaner's book (see "Contents of course" below). Lecture notes on applications and lecture notes on numerical methods available from the course web-page.

Content of course. Selections from and a few additions to material in Chapters 1-6 and 10 of Klebaner's book. Details of these selections and additions are available from the course web-page. Lecture notes on applications and lecture notes on numerical methods, both available from the course web-page. The course is given in english.

Examination. Written exam 4 hours am Tuesday 28 October 2014, with reexams pm Friday 2 January 2015 and am Wednesday 15 April 2015. No aids are permitted. The written exam will have 6 tasks that are worth 5 points each. Of the maximal total 30 points you need 12 points for grade 3/G, 18 points for grade 4, 21 points for grade VG and 24 points for grade 5, respectively.

Lectures	Day	Time and place	Programme
Lecture 1	Tuesday 2 September	3.15-5 pm in MVF33	Ch. 1 in Klebaner's book
Lecture 2	Wednesday 3 September	10.00-11.45 am in MVF33	Ch. 1-2 in Klebaner's book
Lecture 3	Wednesday 3 September	1.15-3 pm in MVF33	Ch. 2 in Klebaner's book
Lecture 4	Tuesday 9 September	3.15-5 pm in MVF33	Ch. 2 in Klebaner's book
Lecture 5	Wednesday 10 September	10-11.45 am in MVF33	Ch. 3 in Klebaner's book
Lecture 6	Wednesday 10 September	1.15-3 pm in MVF33	Ch. 3 in Klebaner's book
Lecture 7	Tuesday 16 September	3.15-5 pm in MVF33	Ch. 3-4 in Klebaner's book
Lecture 8	Wednesday 17 September	10-11.45 am in MVF33	Ch. 4 in Klebaner's book
Lecture 9	Wednesday 17 September	1.15-3 pm in MVF33	Ch. 4 in Klebaner's book
Lecture 10	Tuesday 23 September	3.15-5 pm in MVF33	Ch. 4 in Klebaner's book
Lecture 11	Wednesday 24 September	10-11.45 am in MVF33	Ch. 5 in Klebaner's book
Lecture 12	Wednesday 24 September	1.15-3 pm in MVF33	Ch. 5 in Klebaner's book
Lecture 13	Tuesday 30 September	3.15-5 pm in MVF33	Ch. 5 in Klebaner's book
Lecture 14	Wednesday 1 October	10-11.45 am in MVF33	Ch. 6 in Klebaner's book
Lecture 15	Wednesday 1 October	1.15-3 pm in MVF33	Ch. 6-10 in Klebaner's book
Lecture 16	Tuesday 7 October	3.15-5 pm in MVF33	Ch. 10 in Klebaner's book
Lecture 17	Wednesday 8 October	10-11.45 am in MVF33	Ch. 10 in Klebaner's book
Lecture 18	Wednesday 8 October	1.15-3 pm in MVF33	Applications
Lecture 19	Tuesday 14 October	3.15-5 pm in MVF33	Numerical methods
Lecture 20	Wednesday 15 October	10-11.45 am in MVF33	Numerical methods
Lecture 21	Wednesday 15 October	1.15-3 pm in MVF33	Numerical methods

Exercises. Students should study the solved exercises carefully and then continue to work with the home exercises. Help with the home exercises are offered during lectures.