Course Programme TMS165/MSA350 Stochastic Calculus, 7.5 credits, 1st quarter Fall 2015

Responsible teacher. Patrik Albin (Lectures 1-24), room L3072, email `palbin@chalmers.se`

Other teacher. Kristin Kirchner (Lectures 25-27), room L2105, email `kristin.kirchner@chalmers.se`

Course web-page. `http://www.math.chalmers.se/Stat/Grundutb/CTH/tms165/1516/`

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. 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.

Lectures. Lectures take place at the times and places listed below. The schedule for the content of the lectures is approximate – we will simply let things take the time they require.

Lectures	**Day**	**Time and place**	**Programme**
Lecture 1	Tuesday 1 September	3.15-5 pm in Euler	Ch. 1-2 in Klebaner
Lecture 2	Wednesday 2 September	10-11.45 am in MVF33	Ch. 1-2 in Klebaner
Lecture 3	Wednesday 2 September	1.15-3 pm in Euler	Ch. 1-2 in Klebaner
Lecture 4	Tuesday 8 September	3.15-5 pm in Euler	Ch. 1-2 in Klebaner
Lecture 5	Wednesday 9 September	10-11.45 am in MVF33	Ch. 3 in Klebaner
Lecture 6	Wednesday 9 September	1.15-3 pm in Euler	Ch. 3 in Klebaner
Lecture 7	Thursday 10 September	10-11.45 am in Euler	Ch. 1-2 Exercises
Lecture 8	Monday 14 September	1.15-3 pm in Euler	Ch. 3 Exercises
Lecture 9	Tuesday 15 September	3.15-5 pm in Euler	Ch. 4 in Klebaner
Lecture 10	Wednesday 16 September	10-11.45 am in MVF33	Ch. 4 in Klebaner
Lecture 11	Wednesday 16 September	1.15-3 pm in Euler	Ch. 4 in Klebaner
Lecture 12	Tuesday 22 September	3.15-5 pm in Euler	Ch. 5 in Klebaner
Lecture 13	Wednesday 23 September	10-11.45 am in MVF33	Ch. 5 in Klebaner
Lecture 14	Wednesday 23 September	1.15-3 pm in Euler	Ch. 5 in Klebaner
Lecture 15	Thursday 24 September	10-11.45 am in Euler	Ch. 4 Exercises
Lecture 16	Monday 28 September	1.15-3 pm in Euler	Ch. 5 Exercises
Lecture 17	Tuesday 29 September	3.15-5 pm in Euler	Ch. 6 in Klebaner
Lecture 18	Wednesday 30 September	10-11.45 am in MVF33	Ch. 6 in Klebaner
Lecture 19	Wednesday 30 September	1.15-3 pm in Euler	Ch. 6-10 in Klebaner
Lecture 20	Tuesday 6 October	3.15-5 pm in Euler	Ch. 10 in Klebaner
Lecture 21	Wednesday 7 October	10-11.45 am in MVF33	Ch. 10 in Klebaner
Lecture 22	Wednesday 7 October	1.15-3 pm in Euler	Applications
Lecture 23	Thursday 8 October	10-11.45 am in Euler	Ch. 6 Exercises
Lecture 24	Monday 12 October	1.15-3 pm in Euler	Ch. 10 Exercises
Lecture 25	Tuesday 13 October	3.15-5 pm in Euler	Numerical methods
Lecture 26	Wednesday 14 October	10-11.45 am in MVF33	Numerical methods
Lecture 27	Wednesday 14 October	1.15-3 pm in Euler	Numerical methods

Exercises. Students should study the solved exercises carefully and then continue to work with the non-solved home exercises. Exercises will be dicussed during Monday and Thursday lectures with preference given to the non-solved home exercises (as the solved ones have been solved already ...).

Examination. Written exam 4 hours am Tuesday 27 October 2015, with reexams pm Monday 4 January 2016 and August 2016. Permitted aids are 2 sheets (=4 pages) of hand-written notes (computer print-outs and/or xerox-copies are not allowed). The written exam has 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.

After an exam has been graded you recive an official result mail from Ladok with your result. After that you can goto the expedition (see above) and look at your exam and the grading. If you want you can make complaints about the grading on a form that is available at the expedition.