Course Programme TMS165/MSA350 Stochastic Calculus, 7.5 credits, 1st quarter Fall 2017

Responsible teacher. Patrik Albin (Lectures 1-28), room L3072, email `palbin@chalmers.se`

Course web-page. `http://www.math.chalmers.se/Stat/Grundutb/CTH/tms165/1718/`

Responsible university unit. Department of Mathematical Statistics, Mathematical Sciences, Chalmers Tvärgata 3. Expedition: Monday-Friday 11 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 somewhat approximate – we will simply let things take the time they require.

Lectures	**Day**	**Time and place**	**Programme**
Lecture 1	Tuesday 29 August	3.15-5 pm in Euler	Ch. 1-2 in Klebaner
Lecture 2	Wednesday 30 August	10-11.45 am in MVF33	Ch. 1-2 in Klebaner
Lecture 3	Wednesday 30 August	1.15-3 pm in Euler	Ch. 1-2 in Klebaner
Lecture 4	Tuesday 5 September	3.15-5 pm in Euler	Ch. 1-2 in Klebaner
Lecture 5	Wednesday 6 September	10-11.45 am in MVF33	Ch. 3 in Klebaner
Lecture 6	Wednesday 6 September	1.15-3 pm in Euler	Ch. 3 in Klebaner
Lecture 7	Thursday 7 September	10-11.45 am in MVH12	Ch. 1-2 Exercises
Lecture 8	Monday 11 September	1.15-3 pm in MVH12	Ch. 3 Exercises
Lecture 9	Tuesday 12 September	3.15-5 pm in Euler	Ch. 4 in Klebaner
Lecture 10	Wednesday 13 September	10-11.45 am in MVF33	Ch. 4 in Klebaner
Lecture 11	Wednesday 13 September	1.15-3 pm in Euler	Ch. 4 in Klebaner
Lecture 12	Tuesday 19 September	3.15-5 pm in Euler	Ch. 5 in Klebaner
Lecture 13	Wednesday 20 September	10-11.45 am in MVF33	Ch. 5 in Klebaner
Lecture 14	Wednesday 20 September	1.15-3 pm in Euler	Ch. 5 in Klebaner
Lecture 15	Thursday 21 September	10-11.45 am in MVH12	Ch. 4 Exercises
Lecture 16	Monday 25 September	1.15-3 pm in MVH12	Ch. 5 Exercises
Lecture 17	Tuesday 26 September	3.15-5 pm in Euler	Ch. 6 in Klebaner
Lecture 18	Wednesday 27 September	10-11.45 am in MVF33	Ch. 6 in Klebaner
Lecture 19	Wednesday 27 September	1.15-3 pm in Euler	Ch. 6-10 in Klebaner
Lecture 20	Tuesday 3 October	3.15-5 pm in Euler	Ch. 10 in Klebaner
Lecture 21	Wednesday 4 October	10-11.45 am in MVF33	Ch. 10 in Klebaner
Lecture 22	Wednesday 4 October	1.15-3 pm in Euler	Applications
Lecture 23	Thursday 5 October	10-11.45 am in MVH12	Ch. 6 Exercises
Lecture 24	Monday 9 October	1.15-3 pm in MVH12	Ch. 10 Exercises
Lecture 25	Tuesday 10 October	3.15-5 pm in Euler	Numerical methods
Lecture 26	Wednesday 11 October	10-11.45 am in MVF33	Numerical methods
Lecture 27	Wednesday 11 October	1.15-3 pm in Euler	Numerical methods
Lecture 28	Thursday 12 October	10-11.45 am in MVH12	Numerical Exercises

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 24 October 2017 with reexams am Thursday 4 January 2018 and in latter part of August 2018. Permitted aids on the written exam 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.