Course Programme TMS165/MSA350 Stochastic Calculus, 7.5 credits, 1st quarter Fall 2019

Responsible teacher. Patrik Albin (Lectures 1-27), room L3072, email palbin@chalmers.se

Course web-page. http://www.math.chalmers.se/Stat/Grundutb/CTH/tms165/1920/

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. If any of the four Thursday lectures marked as "Spare time" will be used you will be notified about that the preceeding Wednesday afternoon orally during lecture time and by Canavas email message.

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

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

Examination. Written exam 4 hours am Tuesday 29 October 2019 with reexams pm Friday 3 January 2020 and in latter part of August 2020. 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.