	TTK4135 Plan for Spring 2019					
Week no.	**Lectures Tuesday 10:15-12:00 S3**	**Lectures Thursday 12:15-14:00 S6**	**Helicopter project**	**Exercise out (Mon 15:00)**	**Help session Tuesday 18:15-19:00 EL6**	**Exercise in (Wed 23:59)**
2	Lecture 1 Introduction on optimization - N&W Ch.1	Lecture 2 Optimality conditions - N&W Ch. 12.1-12.2		0: Matrix Calculus, 1: KKT		
3	Lecture 3 Optimality conditons and linear algebra - N&W Ch.12.3, 12.5 (12.8, 12.9)	Lecture 4 Linear Programming - N&W Ch.13.1-13.5		2: LP	0, 1, 2	
4	Lecture 5 Linear Programming - N&W Ch.13.1-13.5	Lecture 6 Quadratic programming - N&W Ch.15.3-15.5, 16.1-2,4-5		3: LPQP	2, 3	0, 1
5	Lecture 7 Quadratic Programming - N&W Ch.15.3-15.5, 16.1-2,4-5	Lecture 8 Open loop dynamic optimization - MPC note Ch.3-3.2	Helicopter Lab week	4: QP	3, 4	2
6	Lecture 9 Model predictive control - MPC note Ch.3.3-4.2.1	Lecture 10 Model predictive control - MPC note Ch.4.2.2-4.3.1	Helicopter Lab week	5: OLMPC	4, 5	3
7	Lecture 11 Linear quadratic control - MPC note Ch.4.3.2-4.4	Lecture 12 Linear quadratic control - MPC note repetition and 4.6	Helicopter Lab week	6: MPCLQR	5	4
8	No lecture	No lecture	Helicopter Lab week		5, 6	
9	Lecture 13 Unconstrained optimization - N&W Ch.2.1-2.2	Lecture 14 Line search methods - N&W Ch.3-3.1, 3.4, 3.5	Helicopter Lab week	7: RICATTI	6, 7	5
10	Lecture 15 Quasi Newton methods - N&W Ch.6-6.1, 8-8.1	Lecture 16 Derivative free optimization - Ch.9, 9.5	Helicopter Lab week	8: UNCON	7, 8	6
11	Lecture 17 Sequential quadratic programming (SQP) - N&W Ch.18-18.2, 11-11.1	Lecture 18 Sequential quadratic programming (SQP) - Ch.18.3, 15.4	Helicopter Lab week	9: OPTALG	8, 9	7
12	Lecture 19 Sequential quadratic programming (SQP) - Ch.18.4, 18.8, 15.5	Lecture 20 TBD		10: SQP	9, 10	8
13					10	9
14	No lecture	No lecture				10
15	Excursion week					
16	Easter vacation					
17	Easter vacation					
18						
	Submit heli report	15/3/2018, 12:00 (noon)				
	Q&A before exam					
	Final written exam	03.06.2019				