Course plan and schedule for the course

version 2017-03-20

Linear and integer optimization with applications, MMG631/MVE165, vt 2017

Week	Day	Date	Start	End	Type	No	Contents	Literature/Exercises
v 12	Tuesday	2017-03-21	10:00	11:45	Lecture	#1	Introduction; course map; modelling optimization applications; graphic solution	Chapters in (i): 1, 2.1-5, 3
	Wednesday	2017-03-22	13:15	15:00	Lecture	#2a	AMPL and CPLEX, Computer exercise on linear optimization (Zuzana Nedělková)	
						#2b	Supply chain (Assignment 1) (Zuzana Nedělková)	
	Wednesday	2017-03-22	15:15	17:00	Computers booked			
	Wednesday	2017-03-22	08:00	09:45	Problem solving	1	Exercises on linear optimization modelling	Exercises in (ii): see the homepage
	Thursday	2017-03-23	10:00	11:45				
	Friday	2017-03-24	10:00	11:45	Lecture	#3	Convexity; basic feasible solution; the simplex method	Chapters in (i): 2.4, 4.1-7, (7.1), 4.8
	Friday	2017-03-24	13:15	15:00	Computers booked			
v 13	Monday	2017-03-27	13:15	15:00	Computers booked			
	Tuesday	2017-03-28	10:00	11:45	Lecture	#4	Linear programming: degeneracy; unbounded solution; infeasibility; starting solutions	Chapters in (i): 4.6, 4.9-10
	Wednesday	2017-03-29	13:15	15:00	Computers booked			
	Wednesday	2017-03-29	15:15	17:00	Lecture	#5	Linear programming duality; economic interpretation; post-optimal and sensitivity analysis	Chapters in (i): 6, (7.2-5) 5.1-5, (5.6)
	Wednesday	2017-03-29	08:00	09:45	Problem solving	2	Exercises on linear optimization theory and algorithms	Exercises in (ii): see the homepage
	Thursday	2017-03-30	10:00	11:45				
	Friday	2017-03-31	10:00	11:45	Lecture	#6	Discrete optimization models and applications; complexity	Chapters in (i): 13, 2.6
	Friday	2017-03-31	13:15	15:00	Computers booked			
v 14	Monday	2017-04-03	13:15	15:00	Computers booked			
	Tuesday	2017-04-04	10:00	11:45	Lecture	#7a	Theory and algorithms for discrete optimization models	Chapters in (i): 14.1-3, 15.1-3
						#7b	Maintenance scheduling optimization (Assignment 2)	
	Wednesday	2017-04-05	13:15	17:00	Computers booked			
	Wednesday	2017-04-05		23:55			DEADLINE Assignment 1	
	Wednesday	2017-04-05	08:00	09:45	Problem solving	3	Exercises on linear optimization duality and sensitivity analysis	Exercises in (ii): see the homepage
	Thursday	2017-04-06	10:00	11:45				
	Friday	2017-04-07	10:00	10:45	Lecture	#8	Discrete optimization: theory and algorithms	Chapters in (i): 14.4-5, (14.6), 16.1-2, 17.1-2, (17.3-4) 13.10-11, 15.4,
	Friday	2017-04-07	13:15	15:00	Computers booked			
v 17	Monday	2017-04-24	13:15	15:00	Computers booked			
	Tuesday	2017-04-25	10:00	11:45	Lecture	#9	Combinatorial optimization theory and algorithms	Chapters in (i): 16, 8.3
	Wednesday	2017-04-26	13:15	17:00	Computers booked			
	Wednesday	2017-04-26	08:00	09:45	Problem solving	4	Exercises on integer linear optimization modelling and algorithms	Exercises in (ii): see the homepage
	Thursday	2017-04-27	10:00	11:45				
	Friday	2017-04-28	10:00	11:45	Lecture	#10	Network optimization: Shortest paths, dynamic programming, linear programming formulations of flows	Chapters in (i):, 8.1-2, 8.4, (8.5), 18.1-5, (18.6-7), 13.5
	Friday	2017-04-28	13:15	15:00	Computers booked			
v 18	Tuesday	2017-05-02		09:30			DEADLINE Assignment 2 - IN THE MORNING!	
			12:00	17:00			DEADLINE Assignment 2-opposition - SUBMISSION FOR PEER REVIEW DURING THE DAY!	
	Tuesday	2017-05-02	10:00	10:45	Lecture	#11a	Wind power investment and generation (Assignment 3a) Ola Carlson (Energy and Environment)	
			11:00	11:45		#11b	TBD (Assignment 3b) TBD	
	Wednesday	2017-05-03	13:15	17:00	Computers booked			
	Wednesday	2017-05-03	08:00	09:45	Problem solving	5	Exercises on integer linear optimization theory and algorithms	Exercises in (ii): see the homepage
	Thursday	2017-05-04	10:00	11:45				
	Friday	2017-05-05	10:00	11:45	Lecture	#12	Linear programming formulations and algorithms for minimum cost network flows	Chapters in (i): 8.6-7
	Friday	2017-05-05	13:15	15:00	Computers booked			
	Friday	2017-05-05		23:55			DEADLINE Opposition (peer review) on Assignment 2	
v 19	Monday	2017-05-08	13:15	15:00	Computers booked			
	Tuesday	2017-05-09	10:00	11:45	Lecture	#13	Multi-objective optimization	(iii): Hand-outs
	Wednesday	2017-05-10	13:15	17:00	Computers booked			
	Wednesday	2017-05-10	08:00	09:45	Problem solving	6	Exercises on network flows	Exercises in (ii): see the homepage
	Thursday	2017-05-11	10:00	11:45				
	Friday	2017-05-12	10:00	11:45	Lecture	#14	Overview of non-linear optimization	Chapters in (i): 2.5.1, 9-12
	Friday	2017-05-12	13:15	15:00	Computers booked			
v 20	Monday	2017-05-15	13:15	15:00	Computers booked			
	Tuesday	2017-05-16	13:15	15:00	Computers booked			
	Wednesday	2017-05-17	13:15	17:00	Computers booked			
	Wednesday	2017-05-17	08:00	09:45	Problem solving	7	Exercises on non-linear optimization	Exercises in (ii): see the homepage
	Thursday	2017-05-18	10:00	11:45				
	Thursday	2017-05-18	13:15	15:00	Computers booked			
	Thursday	2017-05-18		23:55			DEADLINE Assignment 3	
	Friday	2017-05-19	10:00	11:45	Pres		Students' presentations of Assignment 3 - specific schedule will be posted	
	Friday	2017-05-19	13:15	15:05	Pres		Students' presentations of Assignment 3 - specific schedule will be posted	
v 21	Monday	2017-05-22	10:00	11:50	Pres		Students' presentations of Assignment 3 - specific schedule will be posted	
	Monday	2017-05-22	13:15	15:05	Pres		Students' presentations of Assignment 3 - specific schedule will be posted	
	Tuesday	2017-05-23	10:00	11:50	Pres		Students' presentations of Assignment 3 - specific schedule will be posted	
	Tuesday	2017-05-23	13:15	15:05	Pres		Students' presentations of Assignment 3 - specific schedule will be posted	
	Wednesday	2017-05-24	10:00	11:50	Pres		Students' presentations of Assignment 3 - specific schedule will be posted	
	Wednesday	2017-05-24	13:15	15:05	Pres		Students' presentations of Assignment 3 - specific schedule will be posted	