Prof. Andrew Ross				Math 560; CRN 16777; Tue/Thu 5:30-6:45	Pray-Harrold 503	
Block#	Date 2016	Day	Unit	Topics	Bonus Tech before class	Project Due Dates
1	9/8	Thu	modeling	Intro; Syllabus (incl. downloading Luenberger); Overview of OR/IE; example LP; curve-fitting; knapsack		
2	9/13	Tue	software;	sumproduct; Solver Intro; geometry of LP	text-to-columns	
3	9/15	Thu	LP theory;	geometry of LP; Fundamental Theorem; MCNF; other networks	left/mid/right and =DATE	
4	9/20	Tue	modeling	MCNF node-node; other graph problems; knapsack; rounding; building roads	vlookup	
5	9/22	Thu	IP theory	Solving IPs: branch-and-bound	marked scatterplots	
6	9/27	Tue	IP theory; modeling	cutting planes; set/subscript notation; symmetry	sparklines	
7	9/29	Thu	NLP	Intro to NLP: manufacturing vs electricity; contours in Matlab; regression contours	Pivot Tables	
8	10/4	Tue	NLP	multivariate quadratics; solving unconstrained NLPs	parallel axis plots	
9	10/6	Thu	NLP	gradient practice; numerical diff; Taylor series; Newton's	Fourier!	
10	10/11	Tue		catch-up day? Logistic regression; Ridge and LASSO regression; Compressive Sensing		
11	10/13	Thu	NLP	more Newton; Eigens; PSD and convexity	generating random numbers	
12	10/18	Tue	NLP	Lp norms; PSD and convexity; convex sets; empirical convexity	SQL	
13	10/20	Thu	NLP	quasi-convex; contours and convexity; heuristic methods		
14	10/25	Tue	NLP	Sim.Anneal. in Excel; Genetic Alg. in Excel; Genetic Alg. in Python(?)		
15	10/27	Thu	NLP	Line Search		proposal 1
16	11/1	Tue	NLP	Line search		
17	11/3	Thu	NLP	quasi-Newton intro; CG; Coordinate Descent; heavy-ball; stochastic gradient; Nelder-Mead;	Pasting into Word/PPT: live or dead copies?	
18	11/8	Tue	LP theory	Solving LPs		
19	11/10	Thu	presentati	Presentation 1		report 1; presentati
20	11/15	Tue	LP theory	Solving LPs		
21	11/17	Thu	LP theory	Solving LPs		
22	11/22	Tue	LP theory	Duality (Sensible Rules)		
23	11/24	Thu	LP theory	Dual Simplex; Complementary Slackness; Phase 1; Totally Unimodular; Lagrangian Relaxation		
24	11/29	Tue	NLP	Necessary Conditions for Optimality; Projected&Reduced Gradient		proposal2
25	12/1	Thu		Thanksgiving break		
26	12/6	Tue	NLP	Lagrange multipliers and Lagrangian		
27	12/8	Thu	NLP	Convexity and Solution Location; NLP penalty methods		
28	12/13	Tue	modeling	Constraint Prog.; Stochastic Prog.; Robust prog.; Dynamic prog.		
29	12/15	Thu	NLP	Interior Point; convergence rates; condition number		
	12/20	Tue	presentati	"final exam" slot (usual class time): presentations		report 2; presentati