Date	Topic
Th 08/27	Introduction. Lab 0
Tu 09/01 Th 09/03	Cost, objective function, affine functions, linear functions. Definition of constraints, linear constraints. Linear programs. Example 1: the transportation problem. Lab 0 (due Wednesday 09/09 at 1pm)
Tu 09/08 Th 09/10	Example 2: the shortest path problem; Graphical solution of linear programs. Feasibility. Lab 1 (due Wednesday 09/23 at 1pm)
Tu 09/15 Th 09/17	Quadratic programming: Introduction. Engineering solutions of linear programs and quadratic programs. Illustration of the simplex method. Lab 1 (due Wednesday 09/23 at 1 pm)
Tu 09/22 Th 09/24	Integer programming: general concepts. Integer solutions, fractional solutions. Integer programming: shortest path revisited. Lab 2 (due Wednesday 10/07 at 1 pm)
Tu 09/29 Th 10/01	Example of integer solution: shortest path via Dijkstra's algorithm LP-rounding (one hour of lecture followed by office hours). Lab 2 (due Wednesday 10/07 at 1pm)
Tu 10/06 Th 10/08	Branch and bound (1). Branch and bound (2). Midterm review (in lab section)
Tu 10/13 Th 10/15	Midterm Mixed Integer Linear Programming (MILP): an introduction. Lab 3 (due Wednesday 10/28 at 1pm)
Tu 10/20 Th 10/22	MILP: a few examples of real engineering problems. MILP: logical disjunctions. Lab 3 (due Wednesday 10/28 at 1pm)
Tu 10/27 Th 10/29	Dynamic programming: introduction. Dynamic programming: deterministic case. No Lab
Tu 11/03 Th 11/05	Dynamic programming: stochastic case. Dynamic programming: application to Air Traffic Control. Lab 4 (due Wednesday 11/18 at 1pm)
Tu 11/10 Th 11/12	Introduction to nonlinear programming. Convexity. Lab 4 (due Wednesday 11/18 at 1pm)
Tu 11/17 Th 11/19	Gradient descent. Local vs. global minimum. Lab 5 (due Wednesday 12/09 at 1 pm)
Tu 11/24 Th 11/26	Logarithmic barriers. No lecture, No Lab (Thanksgiving).
Tu 12/01 Th 12/03	Interior point methods. Convergence. Lab 5 (due Wednesday 12/09 at 1 pm)
Tu 12/08	Civil and Environmental Engineering examples, final review.
Th 12/16	Final Exam