

Date	Topic
Thur 08/28 Thur 08/28	Course Introduction Lab 0 (due F 09/05 at 2pm)
Tues 09/02 Thur 09/04 Thur 09/04	Objective functions and constraints. Linear programs (LP). Example 1: Transportation problem Lab 0 (due F 09/05 at 2pm)
Tues 09/09 Thur 09/11 Thur 09/11	Example 2: Shortest path problem Graphical solutions to LPs Lab 1 (due F 09/19 at 2pm)
Tues 09/16 Thur 09/18 Thur 09/18	Feasibility, Boundedness, Uniqueness. Simplex Algorithm. Quadratic programming (QP) motivation: Least Squares Lab 1 (due F 09/19 at 2pm)
Tues 09/23 Thur 09/25 Thur 09/25	Graphical QP. Optimality Conditions. Sequential Quadratic Programming (SQP). Lab 2 (due F 10/03 at 2pm)
Tues 09/30 Thur 10/02 Thur 10/02	Integer programming (IP): Fractional solutions. LP Rounding. Shortest path revisited. Example of IP: shortest path via Dijkstra's algorithm Lab 2 (due F 10/03 at 2pm)
Tues 10/07 Thur 10/09 Thur 10/09	Branch & Bound Mixed Integer Programming Midterm Review
Tues 10/14 Thur 10/16 Thur 10/16	MIP Example: Air Traffic Control IN-CLASS MIDTERM EXAM Lab 3 (due F 10/24 at 2pm)
Tues 10/21 Thur 10/23 Thur 10/23	Nonlinear Programming (NLP). Convex/concave functions & sets Guest Lecture on EV Charging Schedule Optimization via MIQP Lab 3 (due F 10/24 at 2pm)
Tues 10/28 Thur 10/30 Thur 10/30	Gradient Descent Constrained NLP: Barrier Functions Lab 4 (due F 11/07 at 2pm)
Tues 11/04 Thur 11/06 Thur 11/06	Method of Lagrange Multipliers. Karush-Kuhn-Tucker (KKT) Conditions. Examples. Graphical Interpretation of KKT Conditions. Sensitivity Analysis. Lab 4 (due F 11/07 at 2pm)
Tues 11/11 Thur 11/13 Thur 11/13	VETERANS DAY HOLIDAY Dynamic Programming (DP). Principle of Optimality. Shortest-path revisited. Lab 5 (due F 11/21 at 2pm)
Tues 11/18 Thur 11/20 Thur 11/20	DP Example 1: Knapsack Problem DP Example 2: Smart Home Appliance Scheduling Lab 5 (due F 11/21 at 2pm)
Tues 11/25 Thur 11/27 Thur 11/27	Stochastic Dynamic Programming (SDP) THANKSGIVING HOLIDAY THANKSGIVING HOLIDAY
Tues 12/02 Thur 12/04 Thur 12/04	Guest Lecture #2 Final Review Final Review
Tues 12/16	FINAL EXAM, EXAM GROUP 7, 3-6PM