ISyE 7676 **Advanced Combinatorial Optimization**

Topics:

Basic concepts from complexity theory
Paths, trees, and branchings in graphs
Matching theory
   Cardinality and weighted cases
   Bipartite and general matching
Integrality of polyhedra
Covers, cliques, and stable sets
Vertex and edge coloring
Maximum and minimum-cost flows
Traversals in graphs
   Hamiltonian and Eulerian cycles/circuits
   Traveling salesman and postman problems
Matroids