**MA\*734 Non Linear Programming**

Convex set, convex function, Generalized convex functions. Fritz john and Karush-Kuhn-Tucker optimality condition, duality, Convex programming problems, Quadratic programming, Fractional programming, Separable programming, Non-linear integer programming. Constrained Optimization: One dimensional search methods, Multi-dimensional search methods. Unconstrained optimization: Conjugate gradient method, Generalized reduced gradient methods, Method of feasible direction.

**References:**

1. J. Nocedal and S.J. Wright, Numerical Optimization, Springer, 1999
2. Mokhtar S. Bazaraa, Hanif D. Sherali, and C. M. Shetty, Nonlinear Programming: Theory and Algorithms, Second Edition, John Wiley & Sons, New York 1993.
3. Anthony V. Fiacco and Garth P. McCormick, Nonlinear Programming: Sequential Unconstrained Minimization Techniques, SIAM. Philadelphia, 1990
4. David G. Luenberger, Linear and Nonlinear Programming, Second Ed., Addison-Wesley, Massachusetts,