Non-Linear Programming

INF 272

We will mainly use the following lecture slides:

web.mit.edu/dimitrib/www/NLP_Slides.pdf

which can be freely downloaded. They are based on the book

Dimitri P. Bertsekas: Nonlinear Programming. Athena Scientific, 1999.

INF 272 will cover topics from the six chapters of this book. Among them are:

1. Introduction to Nonlinear Programming
2. Optimality Conditions and Convexity
3. Basic Methods and Convergence Analysis
4. Feasible Direction Methods
5. Lagrange multipliers
6. Necessary and Sufficient Optimality Conditions
7. Sensitivity Analysis
8. Duality
9. Penalty and Barrier methods

Further recommended literature:

- J. Nocedal, S .J. Wright: Numerical Optimization. Springer, New York, 2006.

- D .G. Luenburger, Y. Ye: Linear and Nonlinear Programming. Springer, 2008.

- M. S. Bazaraa, H. D. Sherali, C.M. Shetty: Nonlinear Programming: Theory and Algorithms. Wiley-Interscience, 2006.