

ME 609 Optimization Methods in Engineering (3-0-0-6)

Introduction to optimization; Formulation of optimization problems; Classical optimization techniques; Linear Programming; Non-linear Programming; single variable, multi-variable and constrained optimization; Specialised algorithms for integer programming and geometric programming; Non-traditional optimization algorithms

Textsbooks:

- [1] S. S. Rao, *Optimization: Theory and Applications*, 2nd ed. Wiley Eastern, 1984.
- [2] K. Deb, *Optimization for Engineering Design-Algorithms and Examples*, Prentice-Hall India, 1995.
- [3] J. S. Arora, *Introduction to Optimum Design*, MCGraw-Hill, 1989.
- [4] G. V. Reklaitis, A. Ravindran and K. M. Ragsdell, *Engineering Optimization-Methods and Applications*, Wiley, 1983
- [5] R. L. Fox, *Optimization Methods for Engineering Design*, Addison Wesley, 1971.