UNIVERSIDADE FEDERAL DE SANTA CATARINA
CENTRO DE CIÊNCIAS FÍSICAS E MATEMÁTICAS
PÓS-GRADUAÇÃO EM MATEMÁTICA PURA E APLICADA

MTM410056 Non-Linear Programming

Pre-requisite: x-x

Weekly lesson hours: 06h

Discipline syllabus: Basic concepts of convex analysis. Optimality conditions. Unrestricted optimization methods. One-dimensional and multidimensional search methods for differentiable and non-differentiable functions. Restricted optimization: Kuhn-tucker optimality conditions, barrier methods and penalties. Quadratic programming.

BIBLIOGRAPHIC REFERENCES

1. *Elementos de Programação não Linear - Ana Friedlander , Editora Unicamp, 1994.*
2. *Linear and non Linear Programing - D. G. Luenberger , Addison-Wesley, 1984.*
3. *Pratical Optimization - P. E. Gill, W. Murray and M. H.Wright, Academic Press, 1981.*
4. *Métodos Computacionais de Otimização - J. M. Martinez e S. A. Santos, IMPA XX Colóquio Brasileiro de Matemática - 1995.*
5. *Numerical Methods for Unconstrained Optimization and Nonlinear Equations - J. E. Dennis Jr. and R. B. Schnabel, 2nd ed., Pratice Hall, 1996.*
6. *Nonlinear Programming - D. P. Bertsekas, Athenas Scientific, 1999.*
7. *Nonlinear Programming: theory and algorithms - M. S. Bazaraa H. D. Sherali and C. M. Shetthy, 2nd ed. , John Wiley Sons, 1993.*
8. *Practical Methods of Optimization - R. Fletcher , 2nd ed. , John Wiley Sons, 1987.*
9. *Numerical Otpimization - J. Nocedal and S. J. Wright, Spring Series in Operation Research, Springer-Verlag, 1999.*