

Código da Disciplina: TE 846 Nome: Métodos Avançados em Sistemas Eletrônicos.

Subtítulo: Otimização de Sistemas II

Responsável: Professor Leandro Coelho dos Santos

Carga horária: 60 horas.

Número de Créditos: 04

Ementa:

Otimização não-linear. Métodos diretos de otimização contínua. Otimização global. Otimização combinatória. Otimização multiobjetivo.

BIBLIOGRAFIA BÁSICA

BAZARAA, M. S., SHERALI, H. D., SHETTY, C. M. Nonlinear programming - theory and algorithms. John Wiley & Sons, 1993.

COELLO, C. C., LAMONT, G. B. Evolutionary algorithms for solving multi-objective problems, Springer, 2007.

DEB, K. Multi-objective optimization using evolutionary algorithms, Wiley, 2009.

GOLDBARG, M. C.; LUNA, H. P. L. Otimização combinatória e programação linear: modelos e algoritmos. 2a. ed., rev. e atual. Rio de Janeiro: Campus, 2005.

KELLEY, C. T. Iterative methods for optimization, Frontiers in Applied Mathematics, SIAM, 1999.

RAO, S. S. Engineering optimization: theory and practice, Wiley, 1996.

SIMON, D. Evolutionary optimization algorithms, Wiley, 2013.

SZWARCFITER, J. L. Grafos e algoritmos computacionais, 2ª edição, Rio de Janeiro: Campus, 1986.

YANG, X. -S. Engineering optimization, Wiley, 2010.

BIBLIOGRAFIA COMPLEMENTAR

Livros

ARORA, J. Introduction to optimum design, 2nd edition, 2004.

AVARES, L. V; CORREIA, F. N. Otimização linear e não linear: conceitos, métodos e algoritmos. 2. ed. Lisboa: Fundação Calouste Gulbenkian, 1999.

FLETCHER, R. Practical Methods of Optimization. John Wiley & Sons Ltd. 2nd Ed., Chichester, UK, 1987.

GILL, E.P., MURRAY, W., WRIGHT, M.H. Practical Optimization. Academic Press Limited, London, 1981.

PAPADIMITROU, C. H.; STEIGLITZ, K. Combinatorial optimization: algorithms and complexity, Ed. Dover, USA, 1982.

RAO, R. V. Advanced modeling and optimization of manufacturing processes, Springer, 2010.

VELOSO, P.; SANTOS, C.; AZEREDO, P.; FURTADO, A. Estrutura de dados, Rio de Janeiro: Campus, 1984.

WOLSEY, L. A.; NEMHAUSER, G. L. Integer and combinatorial optimization, Wiley-Interscience, 1999.

Artigos

BEKTAS, T. The multiple traveling salesman problem: an overview of formulations and solution procedures, Omega, vol. 34(3), pp. 209-219, 2006.

BLUM, C., PUCHINGER, J. RAIDL, G. R., ROLI, A. Hybrid metaheuristics in combinatorial optimization: a survey, Applied Soft Computing, vol. 11(6), pp. 4135-4151, 2011.

BOUKOUVALA, F., MISENER, R., FLOUDAS, C. A. Global optimization advances in Mixed-Integer Nonlinear Programming, MINLP, and Constrained Derivative-Free Optimization, CDFO, European Journal of Operational Research, vol. 252(3), pp. 701-727, 2016.

BOUSSAÏD, I., LEPAGNOT, J., SIARRY, P. A survey on optimization metaheuristics, Information Sciences, vol. 237, pp. 82-117, 2013.

DAS, S., MULLICK, S. S., SUGANTHAN, P. N. Recent advances in differential evolution – an updated survey, Swarm and Evolutionary Computation, vol. 27, pp. 1-30, 2016.

DE LEÓN-ALDACO, S. E., CALLEJA, H., ALQUICIRA, J. A. Metaheuristic optimization methods applied to power converters: a review, IEEE Transactions on Power Electronics, vol. 30(2), pp. 6791-6803, 2015.

FATEMI, M. A new efficient conjugate gradient method for unconstrained optimization, Journal of Computational and Applied Mathematics, vol. 300, pp. 207-216, 2016.

LEWIS, R.M., TORCZON, V., TROSSET, M. W. Direct search methods: then and now, Journal of Computational and Applied Mathematics, vol. 124(1-2), pp. 191-207, 2000.

MAHDAVI, S., SHIRI, M. E., RAHNAMAYAN, S. Metaheuristics in large-scale global continuous optimization: a survey, Information Sciences, vol. 295, pp. 407-428, 2015.

MARTÍ, R., RESENDE, M. G. C., RIBEIRO, C. C. Multi-start methods for combinatorial optimization, European Journal of Operational Research, vol. 226(1), pp. 1-8, 2013.

MUÑOZ, M. A., SUN, Y., KIRLEY, M. HALGAMUGE, S. K. Algorithm selection for black-box continuous optimization problems: a survey on methods and challenges, *Information Sciences*, vol. 317, pp. 224-245, 2015.

PEREYRA, M., SCHNITER, P., CHOUZENOUX, É., PESQUET, J.-C., TOURNERET, J-Y., HERO, A.O., MCLAUGHLIN, S. A survey of stochastic simulation and optimization methods in signal processing, *IEEE Journal of Selected Topics in Signal Processing*, vol. 10(2), pp. 224-241, 2016.

PISINGER, D. The quadratic knapsack problem — a survey, *Discrete Applied Mathematics*, vol. 155(5), pp. 623-648, 2007.

REGO, C., GAMBOA, D., GLOVER, F., OSTERMAN, C. Traveling salesman problem heuristics: leading methods, implementations and latest advances, *European Journal of Operational Research*, vol. 211(3), pp. 427-441, 2011.

SQUILLERO, G., TONDA, A. Divergence of character and premature convergence: A survey of methodologies for promoting diversity in evolutionary optimization, *Information Sciences*, vol. 329, pp. 782-799, 2016.

VARDAKAS, J. S., ZORBA, N., VERIKOUKIS, C. V. A survey on demand response programs in smart grids: pricing methods and optimization algorithms, *IEEE Communications Surveys & Tutorials*, vol. 17(1), pp. 152-178, 2015.