

On the construction of nonlinear optimization courses

Aurél Galántai

Óbuda University

1034 Budapest, Bécsi út 96/b

galantai.aurel@nik.uni-obuda.hu

Abstract: This paper discusses some basic problems concerning the content and presentation of introductory nonlinear optimization courses for general audience. The main aspects are the modelling, theory, algorithms and software to be used, visualization techniques, their balance and the depth of covering.

Keywords: nonlinear optimization models; theory of optimality; optimization algorithm and software; reliability of software and other problems

References

- [1] D. Whitaker: OR on the Micro, Wiley & Sons, 1984
- [2] J.J. Moré: Optimization Software Guide, SIAM, 1993
- [3] C.T. Kelley: Iterative Methods for Optimization, SIAM, 1999
- [4] A. Galántai: Teaching of numerical analysis and optimization, in: Proceedings of Teaching Mathematics for Engineering Students, Miskolc, June 2-5, 1999, P. Körtesi (ed.), Inst. Mathematics, University of Miskolc, 1999, pp. 22-28
- [5] A. Galántai: Optimization methods, Hungarian, lecture notes, University of Miskolc, 2004, 87 pp. (in Hungarian)
- [6] A. Galántai, P. Kárász, L. Szeidl: Operational Research Methods, eCourse material, <http://www.vrtuosi.com/budapest/vr-bud001-operational-research-methods>