

Intensive 21-hour course on

Optimization in Economics and Finance

Given by Prof. M. Pinar (Department of Industrial Engineering, Bilkent University, Ankara)

When 15-19, 22 January 2018, 14:00 – 17:00; 23 January 2018, 10:00 – 13:00

Where Department of Business Studies, Roma Tre University, **aula 18 (second floor)**

PROGRAM

- Static optimization
- Equality and inequality constraints. Lagrange multipliers, KKT conditions

- The role of convexity and its generalizations in optimization
- Lagrangian duality
- Applications in Economics and Finance
- Univariate unconstrained optimization
- Multivariate unconstrained optimization (gradient-based methods, Newton's method and its variants)
- Constrained optimization (penalty and barrier methods, augmented Lagrangian method, sequential quadratic programming)
- Optimization Software

References

- Optimization: Insights and Applications, J. Brinkhuis and V. Tikhomirov
- Convex Optimization, S. Boyd and L. Vandenberghe
- Convex Analysis and Optimization, Lecture Notes by A. Nemirovski