Optimization and Simulation

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TRANSP-OR

Organization

- Class every Tuesday from 09:15 to 13:00.
- 4 credits = 4 contact periods + 4 periods for homework
- Assignments: reading + implementation in Octave/Matlab
- Evaluation: three presentations on March 17, April 28 and May 26.
- All students in a group should be presenting something at each of the three sessions

Tentative outline

- 17.02.2014 Recap: unconstrained optimization, optimality conditions.
- 24.02.2014 Topics in constrained optimization:
  1. Constrained Newton methods
  2. Interior point methods
  3. Augmented lagrangian methods
  4. Sequential quadratic programming
- 03.03.2014: Implementation of the project.
- 10.03.2014: Implementation (continued). Testing. Analysis of results.
- 17.03.2014: Students' presentations.

Tentative outline

- 24.03.2014: Introduction to simulation, random number generation
- 31.03.2014: Discrete event simulation, Statistical analysis and bootstrapping
- 14.04.2014: Implementation of the project
- 21.04.2014: Implementation of the project
- 28.04.2014: Students' presentations
- 05.05.2014: Variance reduction techniques / Markov Chain Monte Carlo
- 12.05.2014: Implementation of the project
- 19.05.2014: Implementation of the project
- 26.05.2014: Students' presentations