Instructors:
- Juraj Stacho, js4374@columbia.edu

Teaching Assistants:
- Itai Feigenbaum, iif2103@columbia.edu

Course Assistants: TBA

Exams and Grading
Your final grade will depend on three components: homework assignments, a midterm exam, and a final exam. The weights for these components are 20%, 40%, and 40% respectively.

All exams are closed-book and closed-notes. Calculators (and other electronic devices) are not permitted.

Recitations
Recitations for the course will be led by the teaching assistants.

Homework policy
Homework assignments are an important component of the course. You are welcome to collaborate with each other on homework problems, but the final write-up must be your own. It is in your interest not to copy someone else’s work. The purpose of the homework assignment is for you to gain a mastery of the material covered during the lecture. Homework must be submitted in person at the end of recitation.

Textbooks
1) (Required) Introduction to Mathematical Programming by Wayne Winston (ISBN 0534359647)
2) (Recommended) Applied Mathematical Programming by Bradley, Hax, Magnanti can be downloaded online at http://mit.edu/15.053/www
3) (Further reading) Linear Programming: Introduction by George B. Dantzig and Mukund N Thapa, ISBN 0387948333 (available as electronic resource in the library)

Tentative schedule of classes
- Introduction to Deterministic modeling
- Linear programming – problem formulation
- Linear programming – graphical solution
- Simplex Method
- Simplex method – special cases
- Sensitivity analysis
- Revised Simplex method
- Duality
- Dual Simplex method
- Bounded-value Simplex method
- Goal programming
- Review
- Networks – Transportation problem
- Networks – Shortest path, Spanning tree
- Networks – Maximum flow
- Networks – Network Simplex method
- Integer programming – problem formulation
- Integer programming – Cutting planes
- Integer programming – Brand-and-Bound method
- Dynamic programming – Resource allocation
- Dynamic programming – Scheduling
- Special Topics – TBA
- Special Topics – TBA
- Review