**General Course Information:** IEOR E4007.001 OPT MODELS & METHODS FOR FE

10:35A-01:05P
SEELEY W. MU 233

**Instructor Information**

Garud N. Iyengar
Professor
Office Address: Rm. 314 S. W. Mudd
E-mail: garud@ieor.columbia.edu
Office Hours: Wed 3:30-5:30pm

**Instructor Information:**

Yupeng Chen
Teaching Assistant
Office Address: Rm. 307A
E-mail: yc2561@columbia.edu
Office Hours: Mon 9-11am

**Textbooks for purchase:** (Hide)
These are the textbooks that your instructor requires or recommends that you purchase.

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<tr>
<th>ISBN</th>
<th>Title</th>
<th>Author</th>
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Disclaimer: This is the textbook information that has been entered by your instructor as of today. Price indicated reflects the Publisher list price.

**Prerequisites**

- Linear algebra: the words "vector", "matrix", "rank" etc. should not sound like a foreign language!
- A basic course in probability and statistics

**Course Objectives**

- Standard optimization models
  - Linear programming,
  - Quadratic programming,
  - General nonlinear,
  - Dynamic programming,
  - Stochastic programming.

  Some discrete optimization techniques will also be introduced.

- The theory underlying the various optimization methods is covered.
- The emphasis is on modeling and the choice of appropriate optimization methods.
- Applications from financial engineering will be discussed.
Instruction material

- Class notes: Class notes will be posted at least one day before class. It would be great if you glance through them before coming to class -- it would make the class more interesting for you and more interactive for me!
- Lecture notes: The lecture notes are be posted in the Lecture Notes folder in the Class Files section.
- Textbook: Optimization in Finance by Tutuncu and Cornuejols
- Recitation materials: The TA will hold recitations that will cover the basics of the MATLAB, AMPL, and go over class material that might need reworking.

Method of Evaluation

- Weekly homework 15%
  - Assigned every Friday morning and due back in class the following Thursday.
  - Collaboration is allowed but not copying. The difference between the two is that you are allowed to think about problems together but everyone of you writes your own code and solutions. You can are not allowed to turn in verbatim copies of homework.
- Midterm 40%. Will be held on Thursday, Oct. 21st (In class)
- Final 45%. December 16th, 9am-12noon, Rm. 233