

# OPERATIONS RESEARCH QUALIFYING EXAMINATION READING LIST

Effective Fall 2015

## Main Topics

1. Stochastic Systems
2. Simulation
3. Linear Programming
4. Optimization Modeling
5. Integer Programming

## Format

The exam is closed book, but students may bring into the exam a single page of notes (both sides of an  $8.5 \times 11$  page). The exam has a total of six questions. Students are required to answer five of the six questions within the four hour period.

## Recommended Textbooks

1. Stochastic Systems
  - S. Resnick, 2005, *Adventures in Stochastic Processes*, Birkhauser.
  - S. Ross, 2000, *Introduction to Probability Models*, Academic Press.
2. Simulation
  - A.M. Law and W.D. Kelton, 2000, *Simulation Modeling and Analysis*, McGraw-Hill.
3. Linear Programming
  - M. Ferris, O. Mangasarian, and S.J. Wright, 2007, *Linear Programming with MATLAB*, MPS-SIAM.
  - D. Bertsimas and J. Tsitsiklis, 1997, *Introduction to Linear Optimization*, Athena Scientific.
4. Optimization Modeling
  - H.P. Williams, 1999, *Modeling Building in Mathematical Programming*, Wiley.
5. Integer Programming
  - Conforti, Cornuejols, and Zambelli, *Integer Programming*, Springer, 2014.

## Recommended Course

- ISyE 524 Introduction to Optimization
- ISyE 525 Linear Programming
- ISyE 620 Simulation Modeling and Analysis
- ISyE 624 Stochastic Modeling Techniques
- ISyE 632 Introduction to Stochastic Modeling
- ISyE 728 Integer Programming

*Note: Taking one of ISyE 624 or ISyE 632 should be sufficient to prepare for the stochastic systems portion of the exam.*

## Participating Faculty

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