Phd Qualifying Exam Topics: *Operations Research*

Linear Programming
- Formulation and Canonical Form
- Graphical Solution and Simplex Method
- Duality Theory
- Sensitivity Analysis

Network Analysis
- Transportation Problem
- Assignment Problem
- Maximal-Flow
- Shortest Route
- Project Management

Random Processes
- State-Transition Modeling
- Formal Definitions
- Discrete Processes
- Continuous Processes

Queuing Models
- Derivation of Arrival and Departure
- Distributions for Poisson Queues
- Poisson Queueing Models
- Non-Poisson Queueing Models
- Queues in Series

Nonlinear Optimization
- Unconstrained Extremal Problems
- Constrained Extremal Problems
- Kuhn-Tucker Conditions
- Unconstrained Nonlinear Algorithms
- Constrained Nonlinear Algorithms

Review Texts:

CALL NO: T57.6 T3 1982
AUTHOR: Taha, Hamdy A.
MAIN TITLE: Operations research : an introduction / Hamdy A. Taha.
EDITION: 3rd ed.
PUBLISHER: New York : Macmillan, c1982.

CALL NO: T57.6 P48 1987
AUTHOR: Phillips, Don T.
MAIN TITLE: Operations research : principles and practice / A. Ravindran, Don T. Phillips, James J. Solberg.
EDITION: 2nd ed.

PUBLISHER: New York : Wiley, c1987.

CALL NO: T57.74 M87 1983
AUTHOR: Murty, Katta G., 1936-
MAIN TITLE: Linear programming / Katta G. Murty.
PUBLISHER: New York : Wiley, c1983.

CALL NO: QA265 D3 1963
AUTHOR: Dantzig, George Bernard, 1914-
MAIN TITLE: Linear programming and extensions / by George B. Dantzig.
CALL NO: T57.8 B39 1993
AUTHOR: Bazaraa, M. S.
MAIN TITLE: Nonlinear programming : theory and algorithms / Mokhtar S. Bazaraa,
Hanif D. Sherali, C.M. Shetty.
EDITION: 2nd ed.
PUBLISHER: New York : Wiley, c1993.