Proposed Course

Mathematics 73.2: Operations Research

3 hours; 3 credits

Linear programming; network analysis; queueing theory; simulation; decision analysis.

Prerequisite: Mathematics 51.1

Syllabus

Linear programming; the simplex algorithm, duality theory, and integer programming.

Network analysis; project scheduling and dynamic programming.

Queueing theory; the role of the exponential distribution.

Simulation; congruential methods, variance reducing techniques, and the regenerative method of statistical analysis.

Decision analysis, including Bayes' decision rule and the St. Petersburg paradox.

Suggested Text:

Introduction to Operations Research (3rd edition)

by F.S. Hiller and G. J. Lieberman.

Pub: Holden-Day (1980)