

SU DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE  
 SYLLABUS (*Tentative*)  
 MATH 460/560 *Operations Research*

**DESCRIPTION:** An introduction to applied operations research and the decision-making process.

**PREREQUISITE:** Linear Algebra (MATH 306) [may be taken concurrently].

**TEXT:** “Operations Research: An Introduction,” by Hamdy A. Taha;  
 Pearson Prentice Hall, 8th edition, 2007.

**SOFTWARE:** Microsoft Excel, and Student CD bundled with Text.

<u>Topics*</u>	<u>Weeks</u>
Introduction to Operations Research & Modeling (Chapter 1)	1
Introduction to Linear Programming & Applications (Chapter 2)	1
Solution & Sensitivity Analysis: Graphical, Simplex Method (Chapter 3)	2
Duality and Post-Optimal Analysis (Chapter 4)	1
Transportation and Project Scheduling Problems (Chapters 5 and 6)	3
A Matrix View of the Simplex Algorithm & Parametric Programming (Chapter 7)	2
Optional Topics*: Integer Linear Programming, Network Models, Waiting Line Models, Simulation, Markov Processes	2
Tests and Student Presentations	2

**\*If time permits, other topics from the text may be added, at the instructor's discretion.**

**EVALUATION**

Projects & Homework	40%
Exams	40%
Final Exam	20%

\*\*Graduate students will be assigned special or additional homework/test problems/projects.

**NOTE:** Once a student has received credit, including transfer credit, for a course, credit may not be received for any course with material that is equivalent to it or is a prerequisite for it.