

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:** “An Introduction to Management Science: Quantitative Approaches to Decision Making,” by David R. Anderson, Dennis J. Sweeney, and Thomas A. Williams; Thomson South-Western, 11<sup>th</sup> edition, 2005.

**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 (Chapter 2)	1
Sensitivity Analysis and Interpretation of Solution (Chapter 3)	1
Applications of Linear Programming (Chapter 4)	1
The Simplex Method, Sensitivity, and Duality (Chapters 5 and 6)	2
Transportation, Assignment, and Transshipment Problems (Chapter 7)	2
Project Scheduling: PERT/CPM (Chapter 10)	1
Optional Topics* : Integer Linear Programming, Network Models, Waiting Line Models, Simulation, Markov Processes	2
Tests and Student Presentations	3

**\*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.