MAT 5490 Introduction to Operations Research

Prerequisites: Instructor approval.

Application of quantitative methods to problems arising in the area of business and computing science. Topics include both deterministic and probabilistic models.

Text: Operations Research: an Introduction by Hamdy A. Taha, 10th ed.
ISBN-13:978-0-13-444401-7

Learning Objectives:
Upon successful completion of this course, the student will be able to:
-model and analyze linear programming problems
-model and analyze transportation problems
-model and analyze network problems
-use pdfs to solve problems and calculate expected values of random variables
-use various quantitative decision criteria to inform decision making under uncertainty/risk
-formulate and analyze Markov chains
-formulate and analyze queueing models

Academic Integrity:

Honesty and integrity are basic virtues expected of all students at Mississippi College. The Mississippi College Undergraduate Catalog lists the policies and penalties for plagiarism and cheating.

Learning Environment:
The method of instruction may include lecture, group problem solving, individual problem solving, demonstrations, computer lab assignments, quizzes and examinations. Each student is expected to have a copy of the text, writing materials, and an open mind. Group work is allowed on homework. On tests, quizzes, and outside assignments, the work must be the student's own, and no cheating will be tolerated. Students are encouraged to see the professor for extra help when needed.

Absences:
A student will automatically receive a course grade of F immediately upon accumulating 8 absences in a MW or TR class (excused or unexcused).

Assessment:
Assessment of the student's progress will be made through examinations as well as through take home problem sets and class feedback. There will be approximately 2 examinations (worth 200 points each), and 2 problem sets (worth 100 points each). Additionally, each graduate student will be required to turn in a take-home exercise worth 100 points. A comprehensive final will be given at the end of the semester that is worth 300 points. You are expected to take the tests at the

assigned times. Make-up tests will be given only with prior notification of absence and professor approval.

Students with Disabilities:

If you have a documented disability please contact the Office of Counseling and Disability Services. Students are responsible to obtain appropriate documentation and information regarding accommodations from the Office of Student Counseling and Disability Services (SCDS). Student Counseling and Disability Services are located in 400 Alumni Hall. You can contact their office as follows: Scds@mc.edu or at 601-925-7790. The Student Counseling and Disability Services website can be accessed by going to https://www.mc.edu/offices/counseling/. Further instructions and explanations regarding disability services can be accessed through the Disability Handbook (https://www.mc.edu/offices/counseling/application/files/5115/7868/8987/DSHandbook2020.pdf).

Early Alert System:
Mississippi College has adopted the practice of finding students early in the semester who may be exhibiting behaviors that could ultimately have a negative impact on their academic progress. These behaviors are often called "red flag" behaviors and include, but are not limited to, excessive absences, poor test grades, and lack of class participation or evidence of non-engagement. Identifying these behaviors early gives the instructor the opportunity to raise the "red flag" on behalf of a particular student so that the student can take the appropriate action to redirect his/her progress. The system alerts the student, the student's advisor, and the Office of Student Success.

These messages are intended to help a student recognize an area of concern and to encourage him/her to make some choices to improve the situation. When a student receives an Early Alert message, the student should quickly make an appointment to talk with his/her professor about the situation. Also, students can make full use of the Office of Student Success to set academic goals and connect to campus resources.