

Introduction to Operations Research

Math 208W

Offered each spring, Surrey campus

Prerequisites: Calculus I (150 or 151 or 154 or 157)

Are you interested in learning quantitative methods to solve problems arising in areas such as business, finance, marketing, computing science, engineering and health care?

Then think about taking Math 208.

This course provides an introduction to operations research with a survey of methods and applications with minimal mathematical prerequisites.

Applications will include transportation, assignment, scheduling, game theory and other topics. Students will formulate mathematical models of a variety of problems arising in industry and use spreadsheets to analyze or simulate the model.

Much of the course work will be group based, with the opportunity to choose a term project of your own.

Some projects and problems covered recently in Math 208:

- Describe a strategy to deal with over crowding at the campus
- Determine the best order to complete printing jobs at a print shop.
- Formulate a model that will schedule the final examinations at SFU with minimal conflicts
- How many washing stations should there be at a car wash so that customers will not wait more than 15 minutes on average to wash their car?
- With what frequency and quantity must a shop re-order stock to keep customers satisfied?
- Determine how a city should allocate contracts for school bus services
- Use a spreadsheet to find a 'good' path for a salesperson to visit 10 given cities efficiently
- Determine which stages of a large construction project are the most critical for the project to remain on schedule
- What production levels should competing firms set for the next several years to obtain the best profits?