
Class time Thursday 2:30-5:20
Office hours Thursday 1:00-2:00 And by Appt.

Texts

1. Journal articles to be assigned
2. Mathematica software: there are two ways of obtaining/using it
   (a) purchase a student license:  
      http://www.wolfram.com/products/student/mathforstudents/licenses.html
   (b) use it online via a Rutgers server: http://apps.newark.rutgers.edu

There are numerous online tutorials for Mathematica, and the most comprehensive free tutorials can be downloaded from their Web site:  
http://www.wolfram.com/learningcenter/tutorialcollection/

Course Description:

This seminar reviews analytical models relevant to improving various aspects of marketing decisions such as product positioning, product line design, pricing strategy, advertising decisions, distribution channel design, and promotion decisions. The primary focus will be on analytical models which are supplemented by numerical approach as appropriate. The seminar will introduce students to various types of models used in research in marketing, including game theory models for competitive analysis, and optimization methods for marketing decisions. The course will enable students to become familiar with applications of these techniques in the marketing literature and prepare the students to apply these and other analytical approaches to research problems that are of interest to them.

Course Format:

As a solution approach, we will use Mathematica, and the first two classes will be used to learn the software.

The course will consist of a combination of lectures and student presentations based on readings to be assigned. Most class sessions will start with a lecture/discussion session led by the instructor that provides an essential introduction to the methodology used in
models being covered in that session. This will be followed by a student led discussion of papers assigned for that day.

Students will be assigned journal articles on economics/OR based modeling, attacking a variety of marketing problems. You should come to each class having read the assigned papers and be ready to participate actively in the class discussion. In particular, you are expected to make assessments as to how the papers can be improved, and how the literature can move from here. Those students who are assigned to particular articles will need to prepare a presentation, explaining the model approach and its managerial implications, and suggest how the paper can be improved or developed into a new paper.

Requirements:

1. The participants are required to complete mini-review/position papers on two topic areas of their choice from the topic areas discussed in the class. A mini-review paper (about 2-3 pages) is expected to cover the following:
   a. What are the important questions (theoretical, empirical, and managerial questions) relevant to this area? Explain how past research has addressed these questions.
   b. Select a particular problem in the area that you have identified as requiring additional research. Briefly discuss how a model based approach can be used to tackle this problem.

2. Term Paper: In addition, each student will pick one of the topics identified in the mini-papers and develop a model to answer the question being addressed. The modeling methodology could be based on the ones discussed in the course. If it is not one that is discussed in the course, the student must discuss with the instructor and get approval.

Grading Criteria:

1. Class Participation and Preparation: 40%
2. Mini-Papers 20%
3. Term Paper: 40%

Course Materials

A list of papers will be provided a few weeks before each session. Student input will also be used as an input to arrive at the reading list. Students are expected to find these articles from the Rutgers Library system, print out, and read them before the class.
Topics To Be Covered (Tentative: Topics might be changed and more articles will be added)

Week 1: Introduction to Models in Marketing

Week 2: Two topics to be discussed

Mathematica Tutorial (we will cover only the basics): Practice the following the tutorial files from the Wolfram Website
- Core Language
- Notebooks And Documents
- Unconstrained Optimization

Competition and Game Models in Marketing

(Reading materials below are to be determined and will be posted on the Blackboard.)

Week 3: Location and other IO Model

Week 4 and 5: Product Decisions

Week 6 and 7: Pricing Decisions

Week 8 and 9: Distribution Channels

Week 10: Retailing Models
Week 11: Sales force Organization and Design
Week 12: Advertising Decisions
Week 13: Promotion Decisions
Week 14: Emerging topics in Marketing
Week 15: Term paper presentation