The course focuses on the basic set of tools and skills needed for quantitative modeling for marketing decisions. Specifically, the course has two objectives:

- Acquaint students with
  1. the types of marketing problems that are amenable to quantitative modeling and
  2. the data sources that marketers use in decision making.
- Enable students to build their own quantitative models for marketing problems.

The course will cover a range of topics. Classes will be a combination of lectures, discussions of assigned articles, and hands-on empirical analysis. The discussions will revolve around a few important articles that are relevant for each topic. The aim is that such discussions will stimulate critical thinking and foster an appreciation of the different facets involved in empirical modeling.

The course will take a “hands on” approach to research. What you get out of this course depends on what you — and your fellow seminar participants — put into it. You are expected to contribute to class discussions. You should actively listen and think critically about the concepts and issues. Reading the required readings for each class is the best way to prepare for class participation. You should be willing and able to present your analysis and viewpoint to the class when the opportunity presents itself. Also each one of you will be expected to prepare a short critique (2-3 pages) and lead the discussion on a couple of the papers (the assignment of papers will be arranged during the first week of class).

Each student is required to submit and present a research proposal (8-10 pages) by the end of the semester. You can choose a current managerial or academic issue in marketing that uses quantitative methods. The proposal should include three parts: motivation, brief literature review, and suggested approaches to address the research problem. Presentations of the research proposal are scheduled for the final class.

**Required Books**

Kenneth Train (2009), Discrete Choice Methods with Simulation, Cambridge University Press. The book is available for free from the following web site
http://elsa.berkeley.edu/~train/dcms.html

Leeflang Peter, Wieringa Jaap, Bikmolt Tammo, and Pauwels, Koen (2015), Modeling Markets, Springer Verlag. The book is available for free from the URL:
**Required Software**

The seminar will include practical exercises; participants should bring a laptop and should download and install the free statistical software R from http://www.r-project.org/ and RStudio before the course.

**Student Evaluation**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Participation and Discussion</td>
<td>20%</td>
</tr>
<tr>
<td>Assignments</td>
<td>50%</td>
</tr>
<tr>
<td>Term Paper</td>
<td>30%</td>
</tr>
</tbody>
</table>
Course Outline

Class # 1, Sep 6: Introduction – Marketing Models

Leeflang Peter, Wieringa Jaap, Bikmolt Tammo, and Pauwels, Koen (2015), Modeling Markets, Springer Verlag, Chapters 1, 2

Winkelmann, Rainer (2009), Analysis of Microdata, Springer Verlag, Chapter 3

Class # 2, Sep 13, Conjoint Analysis


Class # 3, Sep 20, Customer Choice Models

Train, K., *Discrete Choice Methods with Simulation*, Cambridge University Press, 2009, Chapters 2, 3


Class #4, Sep 27: Modeling Heterogeneity


Class #5, Oct 4: Modeling Count and Lifetime Data

Class #6, Oct 11: Customer Base Analysis and Customer Lifetime Value


Class #7, Oct 25: Modeling Censored and Truncated Variables


Class #8, Nov 1: Modeling Dynamics


Class #9, Nov 8: Search Advertising


Class #10, Nov 15, Modeling Text Data


Class #11, Nov 29, Miscellaneous


Class # 12, Dec 06: Summary and Project Presentations