

# MGSC 778

## Revenue Management

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Syllabus – Spring 2013

**Professor:**           **Dr. Mark Ferguson**  
Office:                   721  
Phone:                   803.777.5923  
E-mail:                  mark.ferguson@moore.sc.edu  
Office hours:          Tuesdays, 5:00pm-6:00pm  
                             (or email me to make an appointment)

**Classroom:**           **BA 203**

**Class Time:**         **Tuesdays, Jan 15 – April 2, 6:00-9:30pm**

This class covers the concepts of forecasting demand, segmenting customers and allocating capacity or customizing price offers to each distinct customer segment such that the firm's profits are maximized.

### LEARNING OUTCOMES

At the successful completion of this course, a student will be able to evaluate and analyze revenue improvement opportunities where capacity or prices can be changed to better match supply with demand.

At the successful completion of this course, a student will be able to evaluate historical price/demand data using statistical and analytical methods so as to identify distinct customer segments and target them with the right product at the right time and at the right price.

### REQUIRED MATERIAL

All required readings and assignments for the course are available on Blackboard

### SUPPLEMENTAL MATERIAL

- [Pricing Segmentation and Analytics](#) by Bodea and Ferguson
- [Pricing and Revenue Optimization](#) by Phillips
- [Data Analysis and Decision Making with Microsoft Excel](#) by Albright et al.
- [Revenue Management: Hard-Core Tactics for Market Domination](#) by Robert G. Cross
- [Business Forecasting with Accompanying Excel-Based ForecastX Software](#) by Wilson

All readings listed in the course outline are included on the class web page.

## **RECOMMENDED PRE-COURSE SKILL SET**

This course makes extensive use of modeling using MS Excel and, for advanced students, the open source statistical language R. Students who are not familiar with building analytical models in Excel should take the following online course offered through the Harvard Business School Publishing web site ([www.hbsp.com](http://www.hbsp.com)): Spreadsheet Modeling Online Course by Winston and Sherry

## **ACADEMIC INTEGRITY**

Assignments and examination work are expected to be the sole effort of the student (or group for group assignments) submitting the work. Students are expected to follow the University of South Carolina Honor Code and should expect that every instance of a suspected violation will be reported. Students found responsible for violations of the Code will be subject to academic penalties under the Code in addition to whatever disciplinary sanctions are applied. Cheating on a course deliverable or copying someone else's work, will result in a 0 for the work, possibly a grade of F in the course, and, in accordance with University policy, be referred to the University Committee for Academic Responsibility and may result in expulsion from the University.

## **GRADING**

Evaluations will be based upon the following components weighted by the given percentages.

- *Class Participation and HWs*      25%
- *Forecasting Assignment*            15%
- *Rev Mgt Assignment*                15%
- *Pricing Assignment*                15%
- *Revenue Management Project*    30%

The stated weights will apply for students who perform adequately along each dimension. That is, acceptable performance in *each* area is a necessary condition for successfully completing the course. Final course grades are determined using the total points accumulated (*there are no individual extra credit assignments in this course*).

### Grading scale

A	90 to 100	C	70 to 77
B+	87 to 90	D+	67 to 70
B	80 to 87	D	60 to 67
C+	77 to 80	F	less than 60

## **HOMEWORKS, CLASS PARTICIPATION AND ATTENDANCE (FOR ONSITE STUDENTS)**

Contribution to class discussion will require that you prepare for the class lesson ahead of time by both reading the material to be covered and working out any problems or homework

assignments that are provided on Blackboard. The homeworks are often due before the material is covered in the class, in which case the student is expected to review the relevant material provided on Blackboard, and from outside sources, and take the homework solutions as far as they can. There will be random checking to see if you are spending an acceptable amount of effort on the homework assignments, with grades being on a 0 – 4 scale. A student may work on a homework individually or in a **team of up to 5 people**. When working on a homework as a team, only one solution need be turned in with all students' names on the assignment.

The following outlines the basic rules of respectful behavior that must be followed to permit the classroom to be a positive learning experience for all who have chosen to attend. Please turn off cell phones, do not talk to your neighbors, or do not read anything other than the class material currently being discussed. Students should make every effort to be at class on time and, if late, find a seat quickly and disturb the class as little as possible. Please bring your **name tent** with you to every class. Contribution to class discussion will require that you prepare for the class lesson ahead of time by both reading the material to be covered and working out any problems or homeworks assignments that are provided on the class webpage.

Class contribution will be assessed by the instructor on a 0 – 4 scale. Students who say nothing get 0; those who make valuable, insightful, in-depth contributions get a 4. At the end of the course, the daily points are summed and the class will be ranked by these totals. These scores will be used as a first cut to assign the class participation component of the grade.

Criteria that are useful in measuring effective class participation include:

1. Is the participant a good listener?
2. Are the points that are made relevant to the discussion? Are they linked to the comments of others?
3. Do comments show evidence of applying the concepts from the readings to the analysis of the case or topic of discussion?
4. Is there willingness to test new ideas, or are all comments "safe" (e.g., repetition of facts without analysis and conclusions?)
5. Do comments clarify or build upon the important aspects of earlier comments and lead to a clearer statement of the concepts being covered and the problems being addressed?

### **HOMEWORKS AND CLASS PARTICIPATION (FOR OFFSITE STUDENTS)**

For those students who are not onsite, homeworks and participation in the class via the discussion board on Blackboard will be used to access this component of the grade. Offsite students can add to the learning of the class by finding and posting relevant articles and websites that are relevant to the material covered in class. The homework assignments are often due before the material is covered in the class, in which case the student is expected to review the relevant material provided on Blackboard, and from outside sources, and take the homework solutions as far as they can. There will be random checking to see if you are spending an acceptable amount of effort on the homework assignments, with grades being on a 0 – 4 scale. A student may work on a homework individually or in a **team of up to 5 people**. When working on a homework as a team, only one solution need be turned in with all students' names on the assignment.

## **CLASS BEHAVIOR - GROUP AND INDIVIDUAL NORMS**

Because every faculty member has somewhat different expectations as to class behavior and individual norms, I'd like to outline a few of mine at the outset.

1. If you do miss a class, please view the recorded class to see what additional assignments might have been made, and any material you may have missed.
2. To help us all become acquainted as quickly as possible, please bring your name card to class. If you do not remember your name card, you may receive a zero for the class participation component of that class.
3. For purposes of general class preparation, group work is strongly encouraged.
4. Class time is a perishable commodity, please be considerate by not arriving late for class. We will start and end promptly as scheduled.
5. Be considerate of others and turn off all cell-phones before class begins. Please do not use laptops or tablet pcs during class unless instructed to do so. Any activity deemed distracting to other students will result in a zero score for class participation and may result in dismissal from the class.

## **GROUP PROJECTS**

You are to form groups to undertake some of the exercises involving the application of the main concepts introduced in class. The exercises involve an analysis of the problem, a presentation of the findings, and a report (written from the perspective of a profit analytics consultant who is writing for an audience that is familiar with the principles, concepts, problem areas, systems, and techniques discussed in class). Specific details of the projects will be passed out during the term. Projects should be done in groups of *three* to *five* members. If you are taking the course on a pass/fail basis, you do not need to participate in the group projects but you are expected to participate in the homework assignments.

## **Tentative Schedule**

The following is a tentative schedule. In general, even if the specific date of coverage may change slightly, the order of coverage should remain as presented below. Modifications may be made as the semester progresses and the appropriate changes will be announced in class.

<b>CLASS</b>	<b>DATE</b>	<b>READINGS AND CASES</b>
1	1/15	<b>Introduction to Revenue Management</b> Overview of the course – Customer Segmentation
2	1/22	<b>Seven Core Concepts of Revenue Management</b> Revenue Management Golf Game – Intro to Forecasting
3	1/29	<b>Forecasting</b> Forecasting with Trend and Seasonality - Prediction Intervals
4	2/5	<b>Forecasting</b> Forecasting Assignment Presentations – Forecasting with Promotion Effects
5	2/12	<b>Revenue Management</b> Overbooking and Booking Limits: Critical Fractile Methods
6	2/19	<b>Revenue Management</b> Unconstraining of Demand Data - EMSR-b and Bid-Price Models
7	2/26	<b>Revenue Management</b> Revenue Management Assignment Presentations – Choice Models
8	3/5	<b>Revenue Management – Intro to Pricing</b> Economics Theory of Pricing - Markdown Pricing
9	3/19	<b>Pricing Analytics</b> Customized Pricing
10	3/26	<b>Pricing Analytics</b> Pricing Assignment Presentations - Ethical and Legal Issues in Pricing
11	4/2	<b>Final Project Presentations</b>