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640-01 Theory and Empirical Analysis for Pricing Strategy

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Econ 640: Theory and Empirical Analysis for Pricing Strategy

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Williams College of Business Mission Statement  
We educate students of business, enabling them to improve organizations and society, consistent with the Jesuit tradition.

1. Course Material

Course packet will be prepared by the instructor.  
Supplementing Materials: Materials will be noted in class.

Required Statistical Software: Stata (No prior knowledge in Stata required. We will learn to use it throughout the course)

2. Course Description and Learning Objectives:

This course is the first course in Price Concentration Sequence.

Pricing is a skill. While competition, costs and price sensitivity within a market affect the parameters within which companies set prices, superior pricing is almost always based on skill. Studies show that the companies that had achieved better pricing all had top managers who championed the development of skills in pricing. Regardless of industry, the degree to which managers focused on developing pricing skill capabilities correlated to their companies’ success in achieving a better price for their product than their competitors. Developing pricing skill first requires understanding of empirical techniques in demand estimation, understanding of market analysis and understanding in strategic behavior.

The overall objective of the course is to familiarize students with the central theme in strategic pricing in economics. This course introduces practical/hands-on empirical techniques that are necessary to derive information such as demand equation that is central to pricing setting. Students, upon completion of the course will be able to

1. Understand:
   Consumer Behavior  
   Optimal Resource Allocation (Value Creation)  
   Optimal strategic pricing (Value Capturing)

2. Employ:
   Data Analysis  
   OLS Regression Analysis  
   Discrete Choice Analysis
3. Develop:
   - Empirical demand model and estimation
   - Basic Market Analysis and Business Strategy/Analytics
   - Competitive pricing strategies for individual products and product lines

3. Class Policies and attendance:

This course is designed for working professionals and would-be professionals. You are expected to behave accordingly. This means no rude behaviors in class such as reading newspapers or eating food (hamburgers, pizzas, etc). You are more than welcome to bring your source of caffeine such as coke or coffee.

Attendance is very important. If you have a legitimate reason for an absence, please notify me in advance. Please note that a good portion of lecture materials will be chosen from sources other than the textbook and assigned readings, hence solely relying on the textbook or assigned readings is not enough to do well in this class. It also helps in the exams as materials discussed in class often makes in the exams.

4. Grading:

• The course grade is based on:
  - Weekly Problem sets: (60%)
  - Final Project and Presentation: (40%)

Weekly Problem sets: There will be 4 or 5 weekly problem sets and assignments. Since economic analysis is best learned by working with problems and cases, there will be weekly assignments designed to reinforce and apply the topics covered. These assignments will be graded and should be an excellent reinforcement for the projects. Assignments are due at the beginning of class period after assigned. If you are unable to attend class you may email the assignment by the due date before the class time.

Project and Presentation: There will be a final project and presentation. Presentation is based on your project. Your presentation should be no more than 20 minutes.

5. Academic Integrity:

I will not tolerate any sort of cheating or plagiarism.

6. Math Content:

This course will rely heavily on basic statistical concepts and techniques taught in STAT 500 and basic market analysis concepts and techniques taught in ECON 550 (or ECON 600). Therefore, students are expected to have knowledge in basic statistical concepts and techniques along with basic economic concepts. Occasionally, we will use some techniques in elementary calculus. Don’t Panic if you never had any calculus or forgot everything! I will go over whatever techniques we introduce in class.
Schedule and Course Topics (Tentative)

Lecture 1: January 13

A. Stata and Data Analysis Review
   I. Intro to Stata (Stata is an extremely user friendly software so no worries)
   II. Basic data analysis techniques will be reviewed using Stata
   III. Basic Demand Theory and Market Analysis

Lecture 2: January 20

B. Intro to Regression Analysis
   I. Simple regression
   II. Multiple regression
   III. Statistical inference and goodness of the fit
   IV. Common problems with OLS regression

   Regression analysis is a statistical tool for the investigation of relationships between variables. Usually, the investigator seeks to ascertain the causal effect of one variable upon another—the effect of a price increase upon sales, for example.

Lecture 3, 4: January 27, Feb 3

C. Demand Modeling and Demand Estimation
   I. Linear demand estimation and demand model specification
   II. Fixed effect estimation
   III. Hierarchical estimation
   IV. Nonlinear demand specification and estimation
   V. Demand forecast

Lecture 5, 6: Feb 10, Feb 17

D. Applications to Developing Business Analytics/Strategy
   I. Key sales driver analysis (Identifying value creation determinants)
   II. Demand analysis as price setter
   III. ROI analysis and business planning

Lecture 7: Feb 24

E. Utility Maximization and Discrete Choice Model
I. Consumer Behavior and discrete choice model

F. Discrete Choice Modeling Analysis
   I. Intro to consumer behavioral model and econometric model
   II. Probit/Logit/Multinomial model

Lecture 8: March 02

G. Applications to Developing Business Analytics/Strategy
   I. Market segmentation
   II. Measuring market power
   III. Target marketing

March 09: Final Project due. In-class presentation.