MBA Programme
Period 1, January/February 2015

Prices & Markets

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Course Description:

Prices & Markets is a course on microeconomics. It will provide you with fundamental tools and concepts that are essential to managerial decision making. We will analyze the mechanisms that underlie market forces and the competitive pressures that firms face. We will touch upon supply and demand; production and costs; pricing strategies; competition between industry participants; strategic decision-making and decision-making under uncertainty. Economic fundamentals, like demand, cost, market competition, and government policies, are critical to strategic decisions on issues relating to pricing, capacity management, market entry and exit decisions, to name just a few. The microeconomic concepts and tools you will learn have many applications beyond those treated explicitly in the course; you will see such applications, for example, in subsequent marketing, strategy, and finance courses. In fact, the primary objective of this course is to provide you with basic tools that you will repeatedly apply in your subsequent core and elective classes.

Course Materials

There is no required text. Everything you need for the course will be handed out in class and/or posted on Sharepoint.

The materials include:

- *Course Guide*: Titled "**Firms, Prices and Markets**," by Professor Van-Zandt this is included in the course pack. This focuses on core analytic material and exercises. Note that the chapter numbers will not correspond exactly to the sessions that we cover.

- *A Guide to the Course Guide*: These tell you which parts of the course guide are relevant. Please read this every time before you read the course guide.

- *Mandatory pre-reading*: The coursepack contains a pre-reading guide. This is mainly a short math review and some other methodological material (from the Course Guide) that I prefer not to use class time for. (This is distinct from the suggested pre-reading book that the MBA office sent you.)

- *Exercises from the Course Guide*: This is a document that tells you the relevant exercises from the course guide. I strongly recommend that you solve these individually or in groups. They need not be handed in.

- *Videos:* I have made two videos that flip the classroom. The first video is preparation for Session 3 and covers elasticity of demand. The second is for Session 4 and covers basic concepts of costs. It is imperative that you watch them before the relevant session. The videos are posted on the website including a set of PowerPoint files. I will assume that all of you are familiar with the concepts covered in these videos by our first session.

- *Starred Articles:* In the course outline, and included in the coursepack you will see starred readings. Most of these are quite short. We will discuss these in class. Please read and prepare in advance. Some involve group work, some individual.

- *Optional Readings*. These readings illustrate and extend the ideas discussed in class. We will not explicitly discuss these. The optional readings will be made available electronically.

- *Slides*: The slides provide a structure to the class, but are **not** a perfect substitute for class attendance.

- *Practice Exercises & Exams*: Additional exercises & exams will be posted online.

For supplementary reading, you can consult optional textbooks. Those of you who have already taken a course in microeconomics and want to reinforce the material in this class or explore additional topics can consult *Microeconomics*, (Prentice Hall), by Robert Pindyck and Daniel Rubinfeld. For students with little or no previous economics training, a more basic textbook, *Principals of Economics*, by Gregory Mankiw is recommended. Older editions of these books will work fine as well.

All of you will be invited to a LinkedIn page for the class. Here we will post and comment on interesting events, articles, ideas that build on class concepts. No exam related stuff will be here.

Help

I will not hold regular office hours. In case you need to see me please set up an appointment through Christine Ng (my assistant). For quick questions, you can just drop by, catch me after class, or send me an email.

Grading

Your grade for the course will be based on your work in the course, weighted as follows:

Quiz (individual)	10 %	2nd February, 0900 – 1000
Price Discrimination Assignment (group)	10 %	Due 18th February
Market Power Games (group)	10 %	Runs outside class for 2 weeks
Final	60 %	2nd March, 0900 - 1200

Quiz: One one-hour quiz, primarily intended to provide some feedback on your progress, will be held sometime after session 7. (Closed book; One A4 cheat-sheet written on both sides allowed.)

Price Discrimination Assignment: Each group will come up with one example of price discrimination that they may have encountered. I am mainly looking for creativity, and novelty. Please provide a short explanation of how this achieves price discrimination.

Participation in Market Power Game Simulations: During the period, outside-of-class game theoretic simulations exercises will be conducted. **These will start around/after session 9 and run for about two weeks**. Typically, groups will be required to submit their strategies on the simulation website several times per week during the course of the exercise. Participation in these exercises is mandatory, and 10% of the final grade will depend upon participation. The success of the submitted strategies will **not** be used for grading, since different groups will have different, randomly determined, competitive advantages in the exercises. Instructions and further details will be distributed later in class.

Final: There will be a three-hour closed-book final exam (two A4 cheat-sheets allowed) that will account for the bulk of your grade. The material covered on the exam consists of the course guide, solutions to exercises, slides, and other in-class material and discussions.

Class attendance is mandatory. It is also essential that you be on time for each session. If you are late for a session, I will cold call on you. If you miss more than three sessions, you will receive a failing grade. This is not cheap talk – I failed one person last year for not showing up.

Class participation is **not** graded or judged. Spontaneous questions, discussion, and clarifications are welcome and encouraged. Students may also be called upon randomly to briefly discuss case materials (the starred articles).

Deliverables

Some deliverables will be expected of you (e.g., all PowerPoint files you will upload to the class website). The exact deliverables are listed below with deadlines. I will choose a couple of them to show in class. Each of the deliverables is by group.

Session 3:
Read "Estimating the Elasticity of Demand for Gasoline" by Pushan Dutt
Download data from website
Estimate the basic demand function and the short-run vs. long-run demand estimate
Answer questions Q1- Q4
Upload to website before Session 3

Session 8:
Read Alusaf Hillside Project case
Download cost data for aluminum smelters from website
Construct an industry supply curve for aluminum using this data (Instructions and case are in the coursepack.)
Create PowerPoint file. One slide should simply list the cost components that you think are the variable costs and ones that are fixed in the short run. Use the information from the case and not your intuition since it may not apply to the aluminum industry. Second slide should have the short-run supply curve.
Upload to website before Session 8

On or before February 18:
Upload to website a PowerPoint file with the *Price Discrimination Assignment*. Feel free to be creative. No more than 2 slides please. Please also post a brief write up on the class LinkedIn page.

Things to Keep in Mind

- You are expected to be comfortable with basic economics terms and calculus. Do not panic about calculus – we will use a bare minimum of it. Read the Math Guide in the *Guide to the Course Guide*. You can check out the following website for a glossary of economic terms.
http://www.chass.utoronto.ca/~reak/glosslist.htm

- As is typical at INSEAD, this course moves fast. Your first priority should be to keep up with preparation for the upcoming sessions. The coursework is deliberately frontloaded; a lot of material comes in the first two weeks, before you have projects due in other courses. Take advantage of this time.

- This course is self-contained and has no formal prerequisites, but it is taught at roughly the level of intermediate microeconomics. Therefore, you will have to work particularly hard if you have never taken microeconomics, took just one principles of microeconomics course several years ago, or are unused to the analytic nature of this course. In this case, you should not concern yourself with the supplementary readings in the coursepack – focus on the core material. Students with prior economics background are often surprised at how different this course is from ones they have taken before. Be careful about being over confident and not working hard enough at the beginning.

- If you need further help, please attend the tutorials. The tutorials are intended for those students who have little background in this area and hence would benefit from additional class time on the material. No new material is introduced. The first tutorial will go over some very basic calculus.

- Exercises assigned from the course guide are extremely important. Try *only* the exercises assigned (see document in the coursepack). Because of the fast pace of the course, I do not ask you to hand in the exercises. I distribute extensive solutions for self-correction. I may hand additional exercises as well for practice. I will post additional exercises and practice exams on the class website. You are also expected to understand the message of the course pack readings discussed in class, but not to memorize the facts of the articles or cases.

- Avoid entering the class late or leaving early except in emergencies. While in class, switch off cell phones, tablets and miscellaneous stuff that go beep in the day. Laptops can be used only for taking notes. One big secret: Professors usually find it disrespectful if students are on Facebook, the Interwebs, or checking email during the class. I know many of you are addicted to your smartphones and feel it calling to you siren-like but do resist the temptation. If you miss a particular class and would like to attend the other section, please obtain prior approval from me.

Schedule of Topics

Session 1, 2	Gains from Trade Supply, Demand, and Markets
Session 3	Consumer Choice and Demand
Session 4	Production and Costs
Session 5	Pricing with Market Power
Session 6	Explicit Market Segmentation
Session 7	Implicit Market Segmentation
Session 8	Competitive Supply and Market Price
Session 9	Short & Long Run Costs and Prices
Session 10, 11	Static Games and Nash Equilibrium Strategic Commitment
Session 12	Imperfect Competition
Session 13	Explicit and Implicit Collusion
Session 14	Games with Incomplete Information
Session 15	Adverse Selection, Moral Hazard, Network Externalities
Session 16	Market Power Game Debrief, Presentation, and Wrap Up

Note: Not all topics fit neatly into one session. There will be some spillovers. Moreover, Topics 14 and 15 will receive light treatment, to allow catching up on prior material. Chapter numbers in the Course Guide and session numbers do not match up. The titles do match.

Course Outline

Articles marked with * will be discussed in class and requires advanced preparation. **Please make special note of which session the article will be discussed (in most instances we will learn some concepts and apply it to a case or reading in the next session).** Please read them before coming to class. The other supplementary articles may be mentioned in class to illustrate concepts but will not be discussed in detail. Available electronically only, they are simply for your reading pleasure.

Session 1, 2 Gains from Trade; Supply, Demand, and Markets

Main concepts: A simulated pit market; analysis of trade in which each buyer wants at most one unit and each seller has at most one unit to sell; gains from trade; producer and consumer surplus; Pareto efficiency; effect of taxes. (The *Preface* in the *Course Guide* may also be discussed. It provides background on models and the role of simplification; marginal analysis; decomposition of decision problems.)

Articles:

- I, Pencil (An article from 1958)
- Monkey Business (By the Freakonomics duo)

Session 3 Consumer Choice and Demand

Main Concepts: Empirical estimation of demand; effects of prices and income on demand; elasticity of demand; determinants of price elasticity of demand.

Articles:

- *Estimating the Elasticity of Demand for Gasoline (Download data on class website; unfortunately, this needs MS-Excel on Windows machines; will not work on Macs)
- Raiders of the Lost Arc Elasticity (Indiana Jones + Elasticities? By Robert Jensen)

Session 4 Production and Costs

Main concepts: Applications of Demand and Supply; Global warming; Sunk costs and opportunity costs; analysis of cost curves – fixed vs. variable cost, marginal versus total cost, average cost; economies and diseconomies of scale.

Articles:

- Agricultural Trade: Reaping a Rich Harvest from Doha (IMF brief on subsidies)
- The Sunk-Cost Fallacy (LA Times)
- Land of the Corporate Giants (Economist)

Session 5 Pricing with Market Power

Main concepts: Pricing with market power; socially efficient quantity, profit-maximizing quantity; deadweight loss; marginal conditions for profit maximization in terms of elasticity of demand; Pricing fallacies.

Articles:

- Seeking Perfect Prices, CEO Tears Up the Rules (Wall Street Journal)

Session 6 Explicit Market Segmentation

Main concepts: Perfect price discrimination; informational requirements of perfect price discrimination; explicit market segmentation with linear pricing.

Articles:

- *The Basics of Pricing – Understanding Demand, Costs and Elasticity (this is about using elasticities and marginal costs in pricing decisions)

Session 7 Implicit Market Segmentation

Main concepts: Methods for screening when consumer characteristics cannot be observed; menus and self-selection; versioning; bundling; two-part tariffs.

Articles:

- *New Baldness Drug Is an Older Product at a Premium Price (this is about explicit market segmentation)
- *Will the Roxy Theater Maximize Profits by Eliminating its Student Discount? (this is about explicit market segmentation)
- How to Beat High Airfares (By Nate Silver in the New York Times)
- E pluribus tunum (Pricing of iTunes)

Session 8 Competitive Supply and Market Price

Main concepts: Supply decisions in competitive markets; elasticity of supply; equilibrium; individual and aggregate supply curves.

Articles:

- *Alusaf Hillside Project, Harvard Business School 9-704-458, Dec., 2003 (For this case please download the data from the website.) (to be discussed in **session 8 and 9**)

Session 9 **Short and Long Run Costs and Prices**

Main concepts: Industry dynamics; Short-run & long-run cost curves; exit and entry; the importance of forecasting.

Articles:

- *Growth and Profitability: A Tale of Two Competitive Industries (we cover only the bagel case) (to be discussed in **session 9**)
- *Alusaf Hillside Project, Harvard Business School 9-704-458, Dec., 2003 (For this case please download the data from the website.) (to be discussed in **session 8 and 9**)

Session 10, 11 **Static Games and Nash Equilibrium; Strategic Commitment**

Main concepts: Simultaneous move games; Nash equilibrium; Dominant & dominated strategies; Sequential move games; backwards induction; entry deterrence; Stackelberg games; first-mover advantage; Commitment.

Articles:

- Mars Wins the Shipping Game (Fast Company)
- Making Game Theory Work in Practice (Wall Street Journal)

Session 12 **Imperfect Competition**

Main concepts: Oligopoly; Reaction curves; Price competition with identical & differentiated products; Cournot game; Bertrand game

Articles:

- The Economics of Antitrust: The Trustbusters' New Tools (The Economist)
- Strategic Complements and Substitutes

Session 13 **Explicit and Implicit Collusion**

Main concepts: Repeated games and tacit collusion; trigger strategies

Articles:

- Collusion in the stock market (The Economist)
- Fortune 500, Meet Daytona 500 (Slate)

Session 14 **Games with Incomplete Information**

Main concepts: Games with incomplete information; Entry deterrence games with uncertainty; Reputation; Auctions; Signaling.

Articles:

- eBay or the Highway (Slate)
- Cursed: The Economics of Auctions (The Economist)

Session 15 **Adverse Selection, Moral Hazard, Network Externalities**
Main concepts: Markets with asymmetric information and heterogeneous types; Signaling; Screening; Multiple equilibria and path dependence; Pricing strategies under network externalities.

Articles:
- The Lemon Dilemma (The Economist)
- Burning Sensation (The Economist)
- Thoroughly Modern Monopoly (The Economist)
- Google Android vs. Apple iOS (Forbes)

Session 16 **Game Debrief and Wrap Up**
A review the big picture of the course; we reveal the results of the Market Power Games.

Class Preparation

Reading	***Session***	***Group or Indiv.***	***Deliverables***
Estimating the Elasticity of Demand for Gasoline (Download data on class website)	Session 3	Group	PowerPoint file with estimates of demand functions; Answer questions Q1-Q4
The Basics of Pricing – Understanding Demand, Costs and Elasticity	Session 6	Individual	Be prepared to answer questions 1-5 from the case
New Baldness Drug Is an Older Product at a Premium Price	Session 7	Individual	Be prepared to answer one question: Why is Pfizer charging more money for the baldness drug?
Will the Roxy Theater Maximize Profits by Eliminating its Student Discount	Session 7	Individual	Questions 1, 3 and 4 from the case. Ignore question 2.
Alusaf Hillside Project (Download data from website)	Session 8 Session 9	Group	Construct an industry supply curve for aluminum using the data on the class website. (Instructions and case are in the coursepack.) PowerPoint file. One slide should simply list the cost components that you think are the variable costs in the short run. Use the information from the case and not your intuition since it may not apply to the aluminum industry. Second slide should have the supply curve. This is for Session 8.

			Be prepared to discuss the big question "Should Alusaf build the plant when aluminum prices are at $1100 per ton". This question will be discussed in Session 9.
Growth and Profitability: A Tale of Two Competitive Industries	Session 9	Individual	Read only the bagel case. Questions 2 and 3 are relevant. Ignore the rest.

Glossary of Synonyms

You will learn new terms as the course progresses. The greatest confusion often arises when two or more terms are used for the same concept. This is a list of the most important cases.

1. Gains from trade = surplus.

2. Marginal conditions = first-order conditions.

3. Exponential demand curve = log-linear demand curve = constant-elasticity demand curve.

4. Efficient = socially efficient = Pareto efficient = Pareto optimal.

5. Optimal = either socially efficient or profit-maximizing, depending on the context.

6. Firms have market power = imperfect competition.

7. Firms are price takers = perfect competition.

8. Pricing with market power model = monopoly model.
   (I use the term "monopoly model" because it may be familiar to you from other courses and because it is shorter. However, it inappropriately suggests that this model is not relevant to firms that interact strategically.)

9. Screening = implicit market segmentation.

10. Equilibrium = either "supply=demand", or Nash equilibrium, or backward-induction solution, depending on the context.