Finance 30210
Managerial Economics
Fall 2012

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Teaching Assistants:

Kevin Mitchell (kmitche7@nd.edu): Monday, Tuesday from 7-9PM, BIC

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Primary Sources:

- McGuigan, James, Charles Moyer, and Fredrick Harris, *Managerial Economics; Applications, Strategy and Tactics, 12th Edition,* Thomson-Southwestern, 2010
- *The Wall Street Journal*
- *The Economist*
- *Business Week*

Other Sources:

- Keat, Paul and Philip Young, *Managerial Economics; Economic Tools for Today's Decision Makers Sixth Edition,* 2009
- Hirschey, Mark, *Managerial Economics, 11th Edition,* Thomson-Southwestern, 2006

- Pindyck, Robert and Daniel Rubinfeld, *Microeconomics, sixth edition,* 2005
- Perloff, Jeffrey, *Microeconomics, fourth edition,* 2007
- Kreps, David, *Microeconomics for Managers*, 2004

Grading: There will be three non-cumulative exams given during the course as well as weekly quizzes (generally on Wednesdays). Quiz questions will come from the problem sets posted on the class web site. The final grade will be computed as follows:

Highest two midterms	= 200
Quizzes	= 100
Total	= 300

There is also the possibility of random, unannounced quizzes, so attending class and keeping up with the material is very important. Bonus points will be awarded for exceptional class participation.

The median score (out of 300 points) will receive a 'B' for the course. The ranges for other grades will be at various intervals around the median based on the standard deviation of scores. A typical grading scale is as follows:

265 - 300: A
250 - 265: A-
235 - 250: B+
220 - 235: B
205 - 220: B-
190 - 205: C+
175 - 190: C
160 - 175: C-
145 - 160: D
<145   : F

Honor Code: This course, like all other courses at Notre Dame, is subject to the *Academic Code of Honor*. Please read the Handbook to refresh your understanding of the code.

Course Objectives:

The primary objective for this course is decision making in the context of managing a business. If we think of profits as revenues minus costs, then maximizing profits relies on minimizing costs while maximizing revenues. Completion of this problem requires an understanding of three topic areas:

1) Production and cost decisions – we need to determine a method and a scale of production to manufacture your product at the lowest possible cost
2) Consumer analysis and demand forecasting – we need an understanding of the consumer you face. Specifically, how will your customer base respond to changes in your price and how is your customer base affected by demographic changes.
3) Market Structure and Strategy – how should you set your price knowing that you face competition in the marketplace? How does a changing marketplace affect your pricing strategy?

However, the bigger picture of this course is to understand decision making in a broader context. Economics is all about human behavior. That is, why do people do what they do? In this sense, being an economist is a lot like being a detective. Just as detectives look for clues to solve a crime, we look at the behavior of individuals and use these observations on human behavior to understand the objectives behind those decisions.

Part I: The Basics: Supply, Demand, and Equilibrium

First, we will lay out the basic assumptions and tools that we will rely on for the remainder of the class. First and foremost, I will introduce you to *Homo Economicus*, or, "Economic Man". We assume that economic man behaves in a very specific way, so we should spend some time thinking about whether or not our behavioral assumptions are reasonable. Next, we will look at some of the implications the existence of economic man has for how markets function and how market prices are determined. Truthfully, there are very few applications of supply and demand that are reasonable for analyzing the real world, but the simple supply/demand story will always provide some good intuition into how a more complicated world functions. Finally, we will finish up with a few statistical tools that will come in handy later on in the course.

- **MMH Chapters 1-2**

Part II: Mathematical Preliminaries and Optimization Theory

Every economic decision involves optimization. Consumers make purchase decisions to maximize their well being under the constraint of limited income. Firms make production decisions to minimize production costs and then make pricing decisions to maximize profits. In this section, we will review some of the mathematical techniques involved in these maximization problems.

- **MMH Appendix**

Part III: Production and Cost Analysis

Next, we will take a close look at the cost side of a firm's decision process. First, we have to distinguish between the firm's short-term decisions versus its long term decisions. The short term refers to a time frame short enough that some elements of the

firm's production process are considered fixed (i.e. a firm can't change the size of its production facility overnight). Next, we need to distinguish between *allocative efficiency* and *scale efficiency*. Allocative effience refers to the process of finding an effective mix of resources in your production process (i.e. do I rely more on automation or labor in my manufacturing process). Scale efficiency refers to the selection of the overall size of your production process (i.e. is there a point where my company is too big and, hence, inefficient?). These decisions will determine what your cost structure will look like.

- **MMH Chapters 7-9**

Part IV: Consumer Demand Analysis

Once we have a good handle on your production costs, we need to have a better understanding of your customer base. Given demographic data, can we determine an estimate of your customer base? Can we forecast sales for your product based of of the price that you charge? Can we estimate how your customers will respond to changes in your price as well as changes in other factors such as a change in your competitor's price?

- **MMH Chapters 3-5**

Part VI: Competitive Pricing Techniques

Now, we have all the pieces in place (almost)! The final issue facing the firm is an understanding of the competitive environment in which it operates. In this session, we will look at the simplest of environments. Specifically, we will focus on industry structures where pricing decisions are competitive (i.e. you choose your price taking the decisions of your competitors as a given constant). In a monopoly environment, you are by definition, the only firm in the marketplace, so competitive pricing is a reasonable assumption. In a pure/monopolistic competition framework, you face the opposite extreme – you have so many competitors that the effect of any one competitor's behavior is small enough that it can be ignored. In this environment, we will look at a variety of pricing structures from the simplest (you set one price to everybody) to the more complex (you set multiple prices to different customer types).

- **MMH Chapters 10, 11, 14**

Part VII: The Basics of Game Theory

To this point we have looked at how economic players make decisions without worrying about how those decisions affect those around them. For example, a firm sets its price without any consideration of how rival firms may be affected by that decision and, more importantly, how rival firms might respond to that decision. There are many real life situations where the reactions of rival firms must be taken into account. Game theory gives us the mathematical tools necessary to model these strategic interactions.

- **MMH Chapter 13**

Part VIII: Strategic Pricing Techniques

Next, we move from competitive pricing to strategic pricing. In this environment, you face a small number of competitors (think about the airline or automotive industries). In this market structure, you can no longer ignore your competitors decisions. In fact, you have to assume that any decision you make will cause a reaction from your competitors. Therefore, we need to take those responses into consideration when setting our prices.

- **MMH Chapters 12**

Part IX: Anti-competitive Strategies and Collusion

To this point, we have assumed that the firm's goal is to maximize current profits and it is that single goal that drives the firm's decisions. In this section, we will analyze situations where a firm might have alternative goals in mind. For example, a firm might choose to set a price that is lower than the "profit maximizing" price if it could drive a competitor out of business. Alternatively, sometimes firm's choose to establish cartels. That is, work together to maximize joint profits rather than individual profits.

- **MMF Chapter 13**

Part X: Risk, Uncertainty and Information Economics

Finally, the last assumption to lift is that of perfect information. So far we have assumed that the outcome of any particular decision in known with perfect certainty. Here we will look at how economic decisions are altered when there is uncertainty with regard to the outcome. For example, how much would you be willing to pay for car insurance given that you are unsure as to if you will actually get into a car accident.

- **MMH Chapter 15**