Managerial Economics and Decisions of the Firm
MBA 603, Section 001 & 002
Fall 2013 (Module 2)

Class Location and Meeting Time:

Section 001: Founders Hall 113, Arlington Campus
   Wednesday, 6:30 pm - 10:05 pm
Section 002: University Hall 1200, Fairfax Campus
   Thursday, 6:30 pm - 10:05 pm

Instructor: Assistant Professor of Finance, Seokwoo Lee
Office: 230 Enterprise Hall, Fairfax Campus
Phone: (703) 993-5163
E-mail: slee65@gmu.edu
Website: http://mason.gmu.edu/~slee65/gmu_web/Home.html
Office hours: Wednesday, 5:00 pm – 6:00 pm
   Office 5079, Metropolitan Bldg. (3434 Washington Blvd., Arlington)
   Thursday, 5:00 pm – 6:00 pm
   Office 230, Enterprise Hall (4400 University Dr., Fairfax)
   or by appointment

Blackboard Course Website (mymason.gmu.edu):
I will organize a Blackboard website for this course. The website does include sections for the various cases we use as well as the lecture slides and supporting materials. I encourage you to check it regularly.

Course Prerequisites

Course Materials:

1. Cases:
   Harvard Business School Publishing cases are noted in the course schedule and topics below. These are available directly from HBS Publishing. The link below is to the HBS Publishing web site for the cases I have selected for this course:

2. Textbook:
It is a well-regarded managerial economics text with a solid treatment of most managerial economics topics. Its focus is as a textbook, not a resource for helping students with the details of a case analysis problem. We will not review individual sections of this book and I have not assigned end of chapter problems from it. Therefore, prior editions should be fine.

3. **Optional references:**

The textbook and optional references (a copy) are reserved in the Fenwick and Arlington campus libraries.

4. **Pricing simulation:**
The Universal Rental Car online Pricing Simulation from HBS Publishing is also available at the above website.

5. **Crystal Ball:**
Crystal Ball is a Monte Carlo simulation software package that works with Excel. Once you have constructed your Excel analysis (i.e., model) of a problem, Crystal Ball allows you to quickly simulate the model to develop a distribution of outcomes.

In 2008 it was reported that Crystal Ball was in use in 85% of the Fortune 500 companies in the U.S. and equally important that most of the top 50 ranked MBA programs were making it available to their students. While my interest is primarily in its finance and economics applications, there are also many impressive applications for operations management, marketing, and managerial accounting. The details are in Section A.1.4, and the supporting items are available in the course website.

**Learning Goal: Analytical Decision Making**

**Course Objectives:**

1. To provide MBA students an introduction to how managerial economics principles and practices are used in real world decision making within the firm.

2. To provide MBA students a set of economics analysis tools for managerial accounting, operations management, financial management, marketing management and strategic management problems and issues they will be asked to address later in the MBA programs.

3. To provide an opportunity to critically evaluate and use managerial economic models within a case analysis framework and a simulation.

4. To gain an understanding of how managerial economics may be employed within the firm as a source of potential competitive and strategic advantage.
## Course Schedule, Topics, and Cases

<table>
<thead>
<tr>
<th>Dates</th>
<th>Lectures</th>
<th>Cases</th>
</tr>
</thead>
</table>
| Wed. (Thur.) 30 (31) Oct. | Course introduction (Ch. 1)  
Five forces framework (Ch. 1 & Lecture notes)  
Demand and Supply (Ch. 2)  
Pricing (Ch. 2 & Lecture notes) |                                                                       |
| Wed. (Thur.) 6 (7) Nov.    | Pricing (Ch. 2 & Lecture notes)  
Quantitative demand analysis (Regression/Econometrics; Ch. 3) | AirAsia (demand)  
Compass Maritime (regression) |
| Wed. (Thur.) 13 (14) Nov. | Econometric models (optional) (Ch. 3 & Lecture notes) | (1) Metabical (pricing)  
(2) Clean Edge Razor (pricing) |
| Wed. (Thur.) 20 (21) Nov. | Production process and costs (Ch. 5) | (3) The London 2012 Olympic Games (pricing) |
| Wed. (Thur.) 27 (28) Nov. | Thanksgiving recess                                                      |                                                                       |
| Wed. (Thur.) 4 (5) Dec.    | Dealing with uncertainty (Ch. 12)  
1. Decision tree analysis  
2. Bayesian analysis  
3. Monte Carlo simulation: Crystal Ball (Lecture notes) | Crystal Ball examples  
Universal Rental Car Simulation: trial (5 Dec. – 9 Dec.) |
(5) Genetech - Capacity Planning (prod. & costs) |
| Wed. (Thur.) 18 (19) Dec.  |                                                                       | (6) Merck and Company (uncertainty)  
(7) Delivering Doors in a Window (uncertainty)  
Universal Rental Car Simulation: competition (12 Dec. – 19 Dec.) |
| Wed. (Thur.) 25 (26) Dec.  |                                                                       | Winter recess |
| Wed. (Thur.) 1 (2) Jan.    |                                                                       |                                                                       |
| Wed. (Thur.) 8 (9) Jan.    | Profit planning (Ch. 8)  
Valuation (Lecture notes) |                                                                       |
| Wed. (Thur.) 15 (16) Jan.  | Universal Rental Car Debrief (optional) | (8) Airbus 3AXX (Profit planning & Valuation)  
(9) Alpen Bank (Profit planning & Valuation) |
| Wed. (Thur.) 22 (23) Jan.  | Course warp-up  
Intro. to MBA 643 (Module 3) | (10) Pilgrim Bank (Profit planning & Valuation) |

**** Note: The full names of cases are listed on page 6.****
Evaluation:

The table below details the individual items and their respective weights that will be used for your semester grade.

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Case Group Presentation &amp; Report</td>
<td>30%</td>
</tr>
<tr>
<td>Second Case Group Report</td>
<td>15%</td>
</tr>
<tr>
<td>Individual Case Report</td>
<td>20%</td>
</tr>
<tr>
<td>Universal Rental Car Simulation</td>
<td>15%</td>
</tr>
<tr>
<td>Case Class Discussion Participation</td>
<td>20%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

I review all the case reports. Grading is relative with the “best” case report receiving the highest mark and the poorest report the lowest mark. I do use + and – grades in addition to letter grades. An A or A+ grade is only assigned if the report is of a quality I would send to a consulting client.

1. **Group Case Assignments** (30% + 15%)
   - **Case Presentation and Reports:**
     - Each group is assigned to prepare the analysis for two different cases. Each group must
       - Present the first case and submit the case analysis report (30%);
       - Submit the second case report, but do not present the second case (15%).

   Group case assignments are detailed in the case assignment link on the course webpage. The first case presentation and report will represent 30% and the second case report will represent 15% of your final grade in the course. **All team members will get the same grade on each of the team assignments.** Consult the specific requirements of case presentation and case analysis report in Section A.1.2 and Section A.1.3 respectively.

   You must not miss the class session when your group is assigned to present the case analysis to the class. If you should miss this session, you will receive zero credit for the case assignment.

   You must participate in group projects at a level agreed on by the team. Because the group case discussion is the key aspect of this course, I consider “free-riding” as a serious violation of the Honor System and Code. A free-rider is defined as any individual not devoting as much time and efforts to the group and its work as the other members. If you are not familiar with the Honor Code at George Mason University, please consult the details in Section A.2.1, A.2.2 and GMU catalog.

2. **Individual Assignments**:
   a. **Individual Case Analysis Report** (20%):
      - Each student must submit the individual case analysis report for the case, “Avalanche Corporation: Integrating Bayesian Analysis into the Production Decision-making Process.” The individual case report is due on Saturday January 25, 2014. The requirements of individual case analysis report are the same as those of the group report (See the details in Section A.1.3.).

      You may discuss the case and your thoughts regarding how you organize your analysis with other students in the class. However, you should not collaborate and/or share your work with other students or anyone else. The work you submit should be your own. Using someone else’s work in the individual case analysis report is a serious violation of the Honor Code.
b. **Pricing Simulation: Universal Rental Car (15%)**:  
Universal Rental Car is an online simulation that covers 12 months of operations of a Florida rental car firm with multiple locations. The firm’s management needs to establish prices for both business and tourist customers and does face competition in its markets. You will be individually representing the management of Universal Rental Car in making these decisions. You will be competing against the other students in the class in terms of your overall success in managing Universal pricing strategy.

From December 5th through December 9th, there will be an introductory trail run of the simulation with a single location that you may elect to practice to get an understanding of how the simulation functions. The trial runs will *not* be part of your course grade. The week of December 12th to December 19th, the simulation will be run again with multiple locations. It will be this multiple locations simulation that will represent 15% of your semester grade.

The details about the assignment and supporting materials are available on Blackboard course website.

3. **Individual Case Class Discussion Participation (20%)**:  
Class participation is an important part of the learning process and with a case based course it is vital. For each class where we discuss a case, I record a class participation mark for all students following the class. Besides the students assigned responsibility for a case, I expect everyone carefully review the case in advance of class and contribute to the class discussion. This part of the evaluation will be based on his/her attendance (sign-in sheet or instructor observations) and overall participation throughout the whole semester. When we have completed ½ and ¾ of the cases, I will post individual student’s class participation marks, as well as the class average and standard deviation on the course website. These will be posted under the grade book section.

I will distribute the name tents at our first class meeting. Please plan on bringing them to class for the semester. These are especially important early in the semester helping me to link faces with names.

4. **Submission of Case Reports**:  
Group case analysis reports must be turned in *no later than the class session when the case is presented and discussed in class*. Individual case reports must be submitted on Saturday January 25, 2014. There will be *zero credit* for late case analysis reports. You should turn in a printed copy of your case report on the day it is due. Under exceptional circumstances, I accept emailed reports (such reports should be formatted for printing.).

I have two specific requirements for these reports:
- Begin the report with an executive summary that contains your recommendation;
- Include page numbers.
Textbook Chapter References by Topic:

<table>
<thead>
<tr>
<th>Topics</th>
<th>Chapter Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course introduction / Five Forces</td>
<td>1</td>
</tr>
<tr>
<td>Demand and Supply</td>
<td>2</td>
</tr>
<tr>
<td>Quantitative demand analysis</td>
<td>3</td>
</tr>
<tr>
<td>Uncertainty (Decision tree analysis)</td>
<td>12</td>
</tr>
<tr>
<td>Production planning and costs</td>
<td>5</td>
</tr>
<tr>
<td>Profit planning and Valuation</td>
<td>8</td>
</tr>
</tbody>
</table>

List of the Cases:

- AirAsia: Flying Low Cost with High Hopes.
- Compass Maritime Services, LLC: Valuing Ships.
- Metabical: Pricing, Packaging, and Demand Forecasting for a New Weight-Loss Drug.
- Clean Edge Razor: Splitting Hairs in Product Positioning.
- The London 2012 Olympic Games.
- Husky Injection Molding Systems.
- Genentech – Capacity Planning.
- Merck & Co.: Evaluating a Drug Licensing Opportunity.
- Delivering Doors in a Window: Supply Chain Management at Hindustan Aeronautics Ltd.
- Pilgrim Bank (A): Customer Profitability.
- Alpen Bank: Launching the Credit Card in Romania.
- Avalanche Corporation: Integrating Bayesian Analysis into the Production Decision-making Process.
Appendix

A.1 Case Analysis Details

A.1.1 Case approach

The case approach of instruction in MBA programs is based upon three key assumptions. First, students learn and retain more in an “active” case environment than in a more “passive” lecture environment. Second, that graduate students are capable of being able to sort through complex real world business problems and develop effective solutions to these problems. Third, students develop insight into to management issues from the discussion of cases by their fellow students. This approach assumes that students will learn and retain what they have learned by analyzing an actual problem. This course will focus on how firms have used managerial economics principles and methods to address real world managerial decisions.

A.1.2 Class case presentation

The analysis of these cases is much more effective if someone has carefully worked through the numerical analysis and is prepared to lead everyone through this part of the case. I will designate one group to present analysis of the case to the class. You should be prepared to take the class through your Excel file analysis. You may also present some of your analysis in Power Point (or other presentation tools) to introduce and/or conclude your analysis. You must not miss the class session when your group is assigned to present the case analysis to the class. If you should miss this session, you will receive zero credit for the case assignment.

A.1.3 Format of case analysis reports

All of these case analyses reports should be concise and similar in style and content to a report intended for a firm's senior management. The case analyses must be printed. I do expect that you will begin with an executive summary that includes your critical recommendation. I will grade these reports and return them to you. A suggested outline for a case analysis report follows:

1) Executive summary (including your recommendation)
2) A statement of the problem(s) you see the firm or decision maker facing
3) Methodology (those that you recommend employing)
4) Data requirement or sources (those necessary to employ your recommended methodology)
5) Key assumptions (those you had to make to conduct your analysis)
6) Analysis
7) Conclusions and limitations

The case analysis reports must:
• Begin the report with an executive summary that contains your recommendation;
• Include page numbers.

A.1.4 Computer software

Excel:
You will need a recent, licensed version of Excel (2003, 2007 or 2010) for this course. If you are using a Mac, please make sure your version of Excel is fully supported. For many class sessions at least some of the presentation materials will be in Excel. Further, the detailed quantitative exhibits within the cases have been saved as Excel files and posted to the course website. You may download these directly. All of the case analysis
is much easier to conduct in Excel than with a calculator. Some of the case assignments will be extraordinary time consuming if not impossible without Excel.

**Crystal Ball:**
Crystal Ball is a Monte Carlo simulation software package that works with Excel. Crystal Ball allows you to quickly simulate the analysis in order to develop a distribution of possible outcomes. Crystal Ball is an Oracle product. As some of the cases for this course involve simulation, the School of Management has acquired licenses for the students enrolled in this course to be able to download and install this software on their personal laptops (or desktops). There is a section on the course Blackboard site with information, details and exhibits related to Crystal Ball.

**A.1.5 Laptop**

If you own a laptop computer or might borrow one, it will be helpful to bring it to the class lecture sessions. Working through the models presented during the lectures does provide an opportunity to ask questions that may occur. You will need access to a computer for this course.

**A.1.6 Mobile Phone Policy**

No cell phone usage in class; this includes texting. Please turn them off before class begins.

**A.2 Behavioral Expectations & Other Matters**

**A.2.1 Honor System and Code**

The Honor System and Code adopted by George Mason University will be enforced for this class: [http://www.gmu.edu/academics/catalog/9798/honorcod.html](http://www.gmu.edu/academics/catalog/9798/honorcod.html). In your work on all written assignments, keep in mind that you may not present as your own the words, the work, or the opinions of someone else without proper acknowledgement. You also may not borrow the sequence of ideas, the arrangement of material, or the pattern of thought of someone else without proper acknowledgement. *Please note: Faculty are obligated to submit any Honor Code violations or suspected violations to the Honor Committee without exception.*

**A.2.2 SOM Standards of Behavior**

The mission of the School of Management at George Mason University is to create and deliver high quality educational programs and research. Students, faculty, staff, and alumni who participate in these educational programs contribute to the well-being of society. High quality educational programs require an environment of trust and mutual respect, free expression and inquiry, and a commitment to truth, excellence, and lifelong learning. Students, program participants, faculty, staff, and alumni accept these principles when they join the SOM community. In doing so, they agree to abide by the following standards of behavior:

- **Respect** for the rights, differences, and dignity of others
- **Honesty** and integrity in dealing with all members of the community
- **Accountability** for personal behavior

Integrity is an essential ingredient of a successful learning community. Ethical standards of behavior help promote a safe and productive community environment, and ensure every member the opportunity to pursue excellence. SOM can and should be a living model of these behavioral standards. To this end, community members have a personal responsibility to integrate these standards into every aspect of their experience at the SOM. Through our personal commitment to these Community Standards of Behavior, we can create an environment in which all can achieve their full potential.
A.2.3 Disability

If you have a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 703-993-2474. All academic accommodations must be arranged through the ODS. Please take care of this during the first two weeks of the semester. More information about ODS is available at http://www.gmu.edu/student/drc.

A.2.4 Counseling center

George Mason University has a counseling center that can provide assistance if you find yourself overwhelmed by life, want training in academic or life skills, or the like. More information is available at http://www.gmu.edu/departments/csdc/

A.2.5 Writing center

George Mason University has a writing center that can help you improve your English writing skills. More information is available at http://writingcenter.gmu.edu/

A.2.6 Inclement weather & campus emergencies

Information regarding weather related changes in the University’s schedule (e.g., closing or late opening) will be provided on the GMU website and via MasonAlert. Students sign up for the Mason Alert system to provide emergency information of various sorts at https://alert.gmu.edu.

An emergency poster exists in each classroom explaining what to do in the event of crises and that further information about emergency procedures exists on http://www.gmu.edu/service/cert.

A.2.7 Business Library Liaison Information

Jo Ann J. Henson, MLIS Business and Economics Liaison Librarian
Fenwick Library Fairfax Campus: http://infoguides.gmu.edu/business