

**NATIONAL UNIVERSITY OF SINGAPORE BUSINESS SCHOOL**

**DSC3224 Dynamic Pricing and Revenue Management**

**Instructor:** Professor Sheryl Kimes, sherrickimes@nus.edu.sg

**Session Time and Venue:** Semester 2 2016

**Consultation Hours:** TBA

*“Revenue management is 90% science and 50% art.”*

Revenue management is a method for profitably managing capacity. Many capacity-constrained industries practice some sort of revenue management and there is a shortage of qualified personnel to assist hotels with their revenue management endeavors. The intent of this course is to help you learn how to effectively implement commonly used revenue management techniques in multiple industries. Emphasis will be placed on the applied integration of techniques, information technology, pricing, consumer psychology and management.

This class will be run as a seminar. As such, you are expected to come to class prepared to discuss the material. We will be using a combination of lectures, discussion, guest speakers, class exercises, videos and computer exercises to enhance your understanding of revenue management.

**Required Class Material:** *(Most will be posted on IVLE)*

- Readings
- Lecture notes: Please print the lecture notes out before class and bring them with you to class.

**Grading System**

- |                         |     |
|-------------------------|-----|
| • Homework              | 25% |
| • Final group project   | 20% |
| • Interim Projects      | 20% |
| • Take-Home Examination | 20% |
| • Participation         | 15% |

## Excel Skills Required

This class has a heavy emphasis on Excel. In order for you to be successful, you must be comfortable with the following Excel elements:

- Basic functions ( i.e. SUM, AVERAGE, STDEV, ABS, SUMPRODUCT)
- Graphing
- Lookup functions (LOOKUP, HLOOKUP)
- IF statements

**Class Components:** *IVLE:* You are responsible for keeping up with the material that is available on our IVLE site. Material that will be posted includes selected articles, lecture notes, assignments, video tutorials, links to relevant examples and pre-class exercises. Please print the lecture notes before coming to class.

**Homework:** Eight individual assignments will be assigned. The assignments will typically cover the application of revenue management techniques. I will count your top seven grades (i.e. you can drop your lowest grade). Generally, homework should be submitted to IVLE.

**Group Project:** Groups of students (3-4 people) will develop an Excel-based revenue management system for a mid-sized hotel. Please have a list of your group members to me by 21 January. Detailed project guidelines will be issued in the next two or three weeks.

- **Interim Group Assignments:** In addition, two interim group project assignments (the first on forecasting and the second on rate recommendations) will be required. The intent of these assignments is to help you prepare for the final project.
- **Final Presentation and Project Deliverable:** A final PowerPoint presentation to hotel management (i.e. me and members of some other groups) will be required during the first two or three days of study week.

**Take-Home Examination:** A take-home examination that will assess your understanding of and ability to explain revenue management concepts and techniques will be given.

**Participation:** I strongly believe that class participation is essential to success. I expect that you will be prepared to discuss the assigned material. I will be evaluating participation in several ways. Rather than just calling on volunteers, I will also be using random cold calling. Meaningful class participation is founded on adequate preparation. You are expected to thoroughly review the assigned readings and pre-class assignments prior to discussion in your group. We will discuss and analyze the readings and group exercises together in class.

Approaching this module with a perspective of *partnership* between you and the instructor is important to making this a valuable and fun learning experience.

**Class Policies:**

**Late Assignments:** As in life, late assignments will be penalized. Assignments turned in after class will be penalized by 20%. Assignments turned in one day late will be penalized by 50%. I will be happy to review assignments turned in two or more days late, but you will receive no credit for the assignment.

**Attendance:** We will take a short break approximately half way through class.

You are expected to be on time and to stay in the classroom during class. If you miss a class, you are personally responsible for obtaining notes from a classmate.

**Technology:** Unless otherwise directed, please turn off your hand phones, laptops and other technologies in class. I want your full attention!

**Grading:** I will make every attempt to return assignments in a timely manner.

**Peer Evaluation:** Since this class has a heavy group component, peer evaluations will be required.

**Questions Outside of Class:** Email is the preferred way to contact me outside of class or office hours. Also, be sure to check our IVLE site for the group discussion forum to see if your question has already been addressed.

***Academic Integrity:*** I assume that all work done for credit in this course will be the result of the individual's or authorized group's unaided effort. Anyone who either gives or receives unauthorized assistance in the preparation of work at home or in class will be subject to disciplinary action.

At the same time, I believe that group discussions can be very helpful in clarifying the concepts we deal with in this class. I encourage these discussions as long as they come to a halt before the actual preparation of the work begins (i.e. when the pen touches the page or the fingers depress the keys).

What's acceptable?

- Sharing lecture notes or readings
- Discussing ideas for assignments
- Forming a study group to review weekly lectures and readings
- Discussing the assignments with other class members and with me. It also means that you can work with others, but your own work must represent a substantial portion of the material you turn in. For example, assume that after your own analysis, and talking with others, you decide that a problem has three relevant points. Someone you worked with may also agree that the problem has the same three relevant points. This agreement is fine, but you must write-up and turn in your own analysis or interpretation of the three points, in your own words.

What's not acceptable?

- Copying any portion of someone's assignment

## Tentative Course Outline

Week	Topic	Reading	Video	Assignment
1	Overview of Revenue Management	Kimes and Beard Nettesine and Shumsky, pages 34 - 36		
2	Forecasting	Forecasting Demand for Services Weatherford and Kimes	Forecasting #1	HW1: RM Blog
3	Forecasting and Demand Control Charts	Weatherford et al.	Forecasting #2	HW2: Forecasting
4	EMSR	Netessine and Shumsky	EMSR	HW#3: Forecasting
5	Linear Programming and Bid Prices	HBS Note on Linear Programming	Linear Programming with Solver	HW4: EMSR
6	Overbooking	HBS Note on Marginal Analysis	Overbooking	Project 1
8	Managing Groups	Accra Beach Hotel	Group Displacement	HW #5: LP/Bid Prices
9	Maunik Thacker, SVP Marketing, Marina Bay Sands			HW #6: Overbooking
10	Managing Space	Kimes and Renaghan	Table Mix	
11	Guest speaker: Jeannette Ho, VP of Revenue Management and Analytics, Fairmont Hotels and Resorts International			Project 2
12	Pricing	Kimes and Wirtz To be distributed		HW #7: Managing Space
13	Pricing	To be distributed		HW #8: Pricing
14	Final Group Presentations			Final Project