MGP 203B–Forecasting & Managerial Research Methods (II)

PREREQUISITE: MGP 203A

LECTURES: Saturday: 9:00 a.m. - 11:50 a.m.
2222 Sac Ed Ctr

INSTRUCTOR: Chih-Ling Tsai
3210 Gallagher Hall
752-8565
celtsai@ucdavis.edu

OFFICE HOURS: Saturday: 12:00–1:00 p.m.
or by appointment


APPROXIMATE MATERIAL TO BE COVERED: GK: Chapters 14-21 (see the last page for details)

NOTES and HANDOUTS: Please purchase them from the UCDMC bookstore.

COMPUTER PACKAGE: Weekly handout — showing examples of how to easily apply EXCEL and MINITAB to analyze data. You can rent Minitab (version 16) from the website: http://www.onthehub.com/minitab/

IMPORTANT DATES:
Saturday, 1/14/12 First day of class
(TEMPORARY)
Saturday, 2/18/12 Midterm
Saturday, 3/24/12 Final Exam (open book)

GRADING:
Midterm 30%
Final Exam 40%
Homework 30%
Course Objectives:

1. GSM: Be able to explain Statistics (S) to your GrandMom (GM). In other words, I hope you could explain (or consult) things to your classmates, boss, colleagues, staff or customers in layman’s terms by applying statistical concepts and techniques.

2. Data Analysis: I hope that you can use what you learn from this course to conduct some data analysis (including global cases) by yourself.

ADDITIONAL INFORMATION:

1. Following are some helpful suggestions as well as a few notes that I use when I conduct my classes. Please pay particular attention to the dates and times of the midterms, homework assignments, and the final exam in the syllabus. With your effort and cooperation, Winter Quarter will be a success.

2. I will use portions of two assignments and the midterm summary sheet to assess your learning, but those assessments will not be counted for any grades. The assessments are only for internal use by the School and your names will be confidential.

Suggestions:

- The class number will be assigned at the first day of my lecture. If you could not find your class number, please see me as soon as you can.
- If you fear statistics or your performance in MGP 203A was not satisfactory, please see me within the first two weeks.
- Please review lecture notes and the textbook immediately after each lecture. Homework should also be done as soon as possible.
- If you have any problems in understanding the material please DO NOT HESITATE TO ASK ME FOR HELP. However, I encourage you to study first before you come to see me.
- After you finish each Chapter please review the material again and summarize what you have learned. Ask yourself, what is the relationship between each Chapter? Do some practice problems to help you understand the material rather than just memorize the material.
- Please write your homework clearly and print you name and the class number at the top of the right hand corner on the first page of you homework assignment, also, please staple your homework.
Notes:

- Assignments may be done in groups of no more than three students; only one copy of a group assignment needs to be handed in. However, each student is responsible for the content of all assignments.

- The formats of exams may be varied. However, the purpose of each exam is the same. That is, to test whether you understand the materials or not. Furthermore, I believe that learning the material is more important than obtaining the good grade.

- Homework turned in late will not be graded.

- Makeup exams will not be given. (Exception to the rule: only if instructor agrees you have just cause to make up the exam.)

- Incomplete grades will only be given when an emergency situation exists and verified by the instructor.

- Please do not come late. The lecture begins at 9:00 am (not 9:01 am).

- Please do not talk, sleep, or eat in the class. If you want to drink, please do quietly so you don’t disturb your classmates.

- Please do not turn on any electronic devices, including your laptop, cell phone, iPhone, iPad, and iPod.

- If you plan to miss more than one lecture, then I strongly suggest that you take this class later. In case you miss a lecture, you have to work very hard to pick up the missing materials. Please also note that I give students grades ranging from A to F rather than A to B even though I rarely give students a D or F.
Chapter       Contents
-------------------------------------------------------------------
14    Analysis of Variance
    - One-way analysis of variance
    - Randomized block design
    - Two factorial design
19      Nonparametric Statistics
        - Wilcoxon rank test
        - Kruskall-Wallis test for the completely randomized design
        - Friedman test for randomized block design
15      Chi-Squared Tests
        - Chi-squared goodness of fit test
        - Chi-squared test of a contingency Table
16      Simple Linear Regression and Correlation
        - Model fitting
        - Parameter estimates and interpretations
        - Statistical inference and forecasting
17 & 18 Multiple Regression Model
        - Regression Diagnostics (Check the appropriateness of model assumptions)
        - Transformations and regression model with autocorrelated errors
        - Polynomial regression and nonlinear regression models
        - Regression models with dummy variables
        - Partial F-test to assess the adequacy of model fitting
        - variable selections
20      Time Series Analysis and Forecasting
        - Trend analysis
        - Measuring cyclical and seasonal effects
        - Times series forecasting with smoothing techniques
21      Statistical Process Control