Graduate School of Management
University of California, Davis

Winter Quarter 2012
Chih-Ling Tsai

MGT 203B - Forecasting & Managerial Research Methods (II)

PREREQUISITE:	MGT203A
LECTURES:	Wednesday 9:00 a.m.-11:50 a.m. 1213 Gallagher Hall
INSTRUCTOR:	Chih-Ling Tsai 3210 Gallagher Hall 752-8565 cltsai@ucdavis.edu
OFFICE HOURS:	M 10:30 a.m. -11:30 a.m. Th 10:30 a.m. -11:30 a.m. or by appointment
TEXT:	Statistics for Management and Economics, **Ninth** Edition, by Gerald Keller
APPROXIMATE MATERIAL TO BE COVERED	GK: Chapters 14-21 (see the last page for details)

IMPORTANT DATES:		
	Wednesday, 1/11/12	First day of class
	Wednesday, 2/15/12	Midterm (closed book)
	Wednesday, 3/21/12	Final Exam (open book)

NOTES and HANDOUTS:	Please purchase them from the UCD bookstore.
USE OF COMPUTERS:	Package: Minitab, Excel You can rent the Minitab (version 16) from the website: http://www.onthehub.com/minitab/
HOMEWORK:	Homework problems will be assigned on a weekly basis.

GRADING:		
	Midterm	30%
	Final	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:

- I will interview each of you during this quarter. Thus, I can understand your background, abilities, and expectations of the course. I also appreciate your suggestion and comments regarding this course. The interviewing schedule is listed as follows:

Class number	Week
1-14	1st (January 11-13)
15-28	2nd (January 16-20)
29-42	3rd (January 23-27)
43-56	4th (January 30-Feb. 3)

- 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 MGT 203A was not **satisfactory**, please see me within the **first** week.

- Please review lecture notes and the textbook 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**. I am available whenever you need help (including weekends). 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** your name and the **class number** at the top of the right hand corner on the first page of your 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 need 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.

- If I find that you have problems in learning this course and you don't come to see me for help, I may call you at home!

- 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.

- I **do not** tolerate cheating in my classroom.

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

- Please **do not** talk, sleep, or eat in class. If you have 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

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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