Math 104.SF1

Applied Regression Analysis,, Thursday, 6:50 – 9:30pm

SUMMER 2008

T. J. Tabara
Professor
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Lecture/Computer Lab: Room TBA

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Office hours: Mondays 4:00 to 6:00 p.m. or by appointment

Important Dates:
First Day of Class: 05/08/08
Last Day of Class: 08/21/08

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1. Course Description

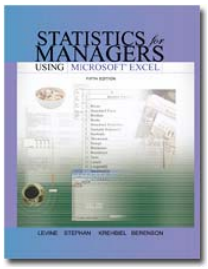
You will learn the fundamentals of regression analysis and related subjects as business decision making tools: applied multiple regression and correlation analysis to forecasting (in particular, managerial interpretation of the regression equation) using a case-study approach. So you will appreciate how to apply, evaluate and test statistical data in real business situations.

Prerequisites: Math 40

2. Course Objectives

To provide you with regression analysis tools in statistical analysis, in particular, statistical inference, and regression analysis. Upon completion of the course, you should be able to: understand and give interval estimation to perform hypothesis testing, simple and multiple linear regression, time series forecasting, understand model building, and perform various statistical analysis using computer software.

3. Required Materials



***Statistics for Managers Using Microsoft Excel,* 5th Edition**, by David M. Levine, David ~Stephan, Timothy C. Krehbiel, and Mark L. Brenson, Prentice Hall, New Jersey, ©2008.

ISBN-13: 978-0-13-229549-9
ISBN-10: 0-13-229549-0

Required Software:

The textbook comes with a CD-ROM that contains PHStat2 (an Excel Add-In), all the data files for Excel, Visual Explorations, and other interesting materials. PHStat2 is compatible with Windows Vista and Office 2007. We assume that you have already possessed certain level of Microsoft Excel operational skills, which are necessary to make full use of the textbook and help you understand statistical concepts. The textbook uses Microsoft Excel and its statistics packages, PHStat2, to explain computational aspects of handling data instead of manually computing data. They are also available to you at the Computer Lab.

Calculator:

A good hand calculator is needed to do statistical work, e.g., TI-83plus, TI-84, HP 12-C, or one with a lot of scientific function keys.

Bookstore:

To purchase course books and materials from eFollett, GGU's official **online bookstore**, go to www.ggu.bkstr.com/.

University Library

Find the **GGU Library Home Page** at http://www.ggu.edu/library/home.html.

There are several databases available through the Golden Gate University Library for students to conduct research on various topics. Remote (off campus) access to the databases **requires your last name and student ID#** (located on the front of your ID card). Be sure to type in ALL 7 digits, including the starting 0. Example: 0123456.

4. Course Procedure

There will be two midterm during the 6th week and 11th week of the course. You have eight problem sets, called “Lab Assignments” throughout the semester. There is a final project, in lieu of the traditional final exam. The lecture will be given in one of the computer lab rooms.

Since there is a national holiday (Thanksgiving Day) during the semester, there are less lecture days than a typical semester. I can't afford using any of the lecture days for exams. I will make both of them take-home. You are permitted to use the textbook, Excel and PHStat2, but you are not allowed to consult any problem with our tutors or your fellow students. See the honor policy below.

5. Grading Policy

Final grades are based on the following distribution:

Lab Assignments (8)	20%
Mid-term Test (2)	40%
Final Project	40%

6. Academic Integrity Policy

GGU's Policy on Student Academic Integrity is in effect at all GGU teaching locations, including regional classroom sites, corporate sites, and distance courses delivered in any medium. This policy applies to all business, taxation, and technology students at Golden Gate University.

Academic integrity means doing academic work in a manner that strives to achieve the learning objectives your courses have set out for you. It means that you follow the rules and procedures prescribed by your instructors so that you acquire the skills and knowledge your courses are designed to give you. It means that you engage in ethical practices in taking tests

and doing assignments and that you respect intellectual property rights by fully disclosing sources of information that appear in your papers and presentations.

GGU provides many resources and services that assist you in learning the required research and documentation skills. Please read GGU's Policy on Student Academic Integrity: Policy on Student Academic Integrity

7. Disability Accommodations

Golden Gate University seeks to ensure that all programs and services are fully accessible to students with disabilities who identify and express their needs.

Information regarding The Americans with Disabilities Acts and GGU's policies and services can be found at: http://www.ggu.edu/student_services/disability_services

8. Math Tutoring Services

The mathematics program and Golden Gate University offers two types of free-of-charge tutorial services through our Math Resource Center. One is on-site tutoring service offered at Room 333 at 40 Jessie Street on San Francisco Campus. The other is on-line tutoring service (MOTH) where you can submit your question to our tutors on-line anytime. For detail, please visit http://www.ggu.edu/undergraduate_programs/tutoring_services.

9. Instructor Bio

Professor Tabara received a Ph.D. from the University of Minnesota in Mathematics. Although his undergraduate degree was a bachelor of engineering in materials science and electrical engineering from one of the top engineering schools in Tokyo, Japan, (some thirty years ago), he found himself fascinated in mathematics upon his arrival at the University of Minnesota (thanks mostly to its excellent teachers), and decided to pursue its math graduate degree. T. J. has been a full time faculty member in the Department of Mathematics at Golden Gate University since 1991 after having taught at USC in Los Angeles.

At GGU, He has developed and taught a variety of math courses, from undergraduate algebra, calculus, quantitative analysis and statistics to graduate mathematical statistics and quantitative methods, and from traditional format to on-line format. He is active in research and has published numerous papers in his field of interests, and has co-authored a number of papers in technology use in math education. He has also given a number of conference talks about the subjects mentioned above domestically and internationally.

Aside from doing mathematics, T. J.'s interest is nothing but in computer, hardware, software and networking, etc. He has also taught a course, Introduction to Visual Basic, for CIS department at GGU. He is also an avid collector of Japanese comic books, called "Manga" or "Gekiga." He has more comic books (about 600 books) than math books...

10. Course Outline

Week 1 (5/8)	Chapter 7, 7.1 - 7.6	Sampling Distributions
Week 2 (5/15)	Chapter 8, 8.1 - 8.6	Confidence Interval Estimation Due: Lab Assignment #1
Week 3 (5/22)	Chapter 9, 9.1 - 9.6	Hypothesis Testing Due: Lab Assignment #2
Wee 4 (5/29)	Chapter 10, 10.1 - 10.4.	Two-Sample Test Due: Lab Assignment #3

Week 5 (6/5)	Chapter 12,12.1 - 12.5	Chi-Square Test Due: Lab Assignment #4
Week 6 **(6/12)**	**Test I,** Chapters 7, 8, 9, 10, and 12. This is a take-home exam.	Catch-up lecture and Q &A Due: Lab Assignment #5
Week 7 (6/19)	Chapter 13, 13.1 - 13.10	Simple Linear Regression Due: Test I
Week 8 (6/26)	Chapter 13, 13.1 - 13.10	Simple Linear Regression
Week 9 (7/3)	Chapter 14, 14.1 - 14.6	Multiple Regression Due: Lab Assignment #6
Week 10 (7/10)	Chapter 14, 14.1 - 14.6	Multiple Regression
Week 11 **(7/17)**	**Test II,** Chapters 13 & 14. This is a take-home exam.	Catch-up lecture and Q &A Due: Lab Assignment #7
Week 12 (7/24)	Chapter 15, 15.1 - 15.5	Model Building/Variable Selection Due: Test II
Week 13 (7/31)	Chapter 15, 15.1 - 15.5	Model Building/Variable Selection
Week 14 (8/7)	Chapter 16, 16.1 - 16.9	Time-Series Forecasting Due: Lab Assignment #8
Week 15 (8/14)	Chapter 16, 16.1 - 16.9	Time-Series Forecasting
Week 16 (8/21)	**Final Project (Due: by 11:59pm, 8/23)**	