

**Department of Quantitative Methods and Information Technology
 John Gokongwei School of Management
 Loyola Schools
 Ateneo de Manila University**

Course Catalog:	QMT 12
Course Title:	Business Statistics
School Year:	2012 – 2013
Semester:	Summer
Units:	3 units
Lecturer:	John Carlos B. Clerigo Wilson Q. Gan

Course Description

The course introduces the students to various methods of statistical analyses as applied in various industries and enterprises. Through the use of primary statistical techniques, the students attain a meaningful understanding of statistical reasoning within the context of management decision-making. Topics essentially focus on statistical description, statistical induction, and analysis of statistical relationship.

Course Objective

The course endeavors to provide students with meaningful understanding and valuable insights on the basic concepts, tools, and techniques of statistical investigation, and their corresponding functions and applications in the managerial decision-making process.

Course Outline

Topics and Coverage	Reference
Introduction to Business Statistics <ul style="list-style-type: none"> • Management Decisions and Business Research • Statistical Research Process • Overview of Statistical Tools • Data Types and Sources • Survey Questionnaire Design 	Chapter 1
Descriptive Statistics <ul style="list-style-type: none"> • Tabular Methods • Visual and Graphical Methods • Numerical Methods 	Chapter 2-3
Introduction to Probability <ul style="list-style-type: none"> • Concept of Probability • Properties of Sample Spaces and Events • Counting Techniques • Hypergeometric Probabilities • Conditional Probability and Bayes' Theorem 	Chapter 4

Discrete Probability Distributions <ul style="list-style-type: none"> • Properties of Discrete Probability Distributions • Binomial Distribution • Poisson Distribution • Triangle Distribution 	Chapter 5
Continuous Probability Distributions <ul style="list-style-type: none"> • Properties of Continuous Probability Distributions • Uniform Distribution • Exponential Distribution • Normal Distribution • Normal Approximation to the Binomial 	Chapter 6
Sampling Distribution <ul style="list-style-type: none"> • Sampling Distribution of the Sample Mean • Sampling Distribution of the Sample Proportion 	Chapter 7
Introduction to Decision Analysis <ul style="list-style-type: none"> • Decision Trees • Expected Values (Perfect and Imperfect Information) 	Chapter 19
LONG TEST 1	
Confidence Intervals <ul style="list-style-type: none"> • Confidence Intervals for the Population Mean • Confidence Intervals for the Population Proportion • Sample Size Determination 	Chapter 8
Hypothesis Testing <ul style="list-style-type: none"> • Developing the Null and Alternative Hypotheses • Type I and Type II Errors • One-Tailed Tests • Two-Tailed Tests 	Chapter 9
Two-Population Hypothesis Testing <ul style="list-style-type: none"> • Independent Samples • Paired Differences/Matched Samples 	Chapter 10
Chi-Square Tests <ul style="list-style-type: none"> • Goodness of Fit Tests • Tests for Independence 	Chapter 12
Analysis of Variance <ul style="list-style-type: none"> • Basic Concepts of Experimental Design • One-Way Analysis of Variance (Completely Randomized Design) • Two-Way Analysis of Variance • Randomized Block Design 	Chapter 11
Simple Linear Regression <ul style="list-style-type: none"> • Simple Linear Regression Model • Model Assumptions • Testing the Significance of the Slope, Intercept and Model 	Chapter 13
Nonparametric Methods	Chapter 18
LONG TEST 2	

Primary Reference

Bowerman ,O'Connell and Murphree. Business Statistics in Practice. 6th Edition, McGraw-Hill Irwin, 2011.

Suggested Reference

Anderson, David, Sweeney, and Williams. Modern Business Statistics with Microsoft Excel. 1st Edition, Thomson South-Western, 2003.

Myatt, Glenn J. Making Sense of Data: A Practical Guide to Exploratory Data Analysis and Data Mining. Wiley. 2007

Course Requirements

2 Long Tests	60%
Group Project	20%
Quizzes and Recitation	20%
<i>TOTAL</i>	100%

Grade Equivalents

92 ≤ 100	3.76 – 4.00	A	70 < 77	1.81 – 2.30	C
88 < 92	3.31 – 3.75	B+	60 < 70	1.00 – 1.80	D
83 < 88	2.81 – 3.30	B	0 < 60	Below 1.00	F
77 < 83	2.31 – 2.80	C+			

1. There shall be two (2) administered long exams (open notes and open books), to be held outside class hours with a three-hour duration. The two exams shall have equal weights. Curving will be done only when the number of failing students is greater than 20% of the student population taking QMT12. Standardized scores will be used for curving, with a mean of 74 and a standard deviation to be determined by the instructor.
2. The two long tests are the most important gauge of individual performance in this course. As such, students whose average grade in the two exams is equivalent to an F will automatically receive a final grade of F, regardless of the marks obtained in the other course requirements.
3. There shall be no make-up exams, unless there is a legitimate and immediate reason (for medical-related concerns, submission of a valid doctor's certificate is required). The lecturer or the department secretary must be notified not later than 12 noon of the examination date. Failure to comply with the aforesaid requirement will warrant a grade of 'F' for the exam.
4. For long exams, students are given at most three (3) school days after the return of the booklets to make the necessary appeals and requests for corrections. After this period, grade changes will no longer be entertained. A letter explaining what needs to be corrected should be submitted together with the original exam to the Department

Secretary (Ms. Anna Geronimo). The course instructors reserve the right to review all your answers in the exam, not just the one you requested to be regarded. Note that this may result to an increase or decrease in your total score. All regrade decisions are final.

5. Peer rating shall be applied on the final project grade. See the project guidelines for a detailed description of the project.

Classroom Policies

1. The teacher will check the attendance at the start of the period (ex. 10:30 am). After 15 minutes, the teacher will check the attendance again. Any student who is not in the classroom by that time will be considered absent and will receive a cut. A student is entitled to at most 6 cuts.
2. The students must submit a 3 x 5 white index card with the following information:
 - a. Name
 - b. ID Number/Course
 - c. Highschool
 - d. Cellphone Number AND Landline Number
 - e. E-mail Address
 - f. Statistical Trivia

A 1x1 ID picture must be pasted at the upper right hand corner of the index card. The picture must be a **headshot**. Once you have pasted the picture, write your nickname directly below the 1x1 ID picture.

This index card must be submitted on the second meeting of class. The index card will be used for the checking of your attendance. Failure to submit the index card by the second meeting will merit a cut for **that day and each succeeding day** until the student submits an index card with the specifications above.

3. A beadle will be selected on the first day of class. He/she will be tasked to check the attendance of the teacher. Contact the ADAA for the procedure. If the beadle is going to be absent, he/she must assign another student to check the attendance of the teacher.
4. The use of cellphones, laptops, ipods, mp3 players and other electronic devices (except for calculators) in class is prohibited. If a cellphone rings, makes a sound or is seen by the teacher, the owner of the cellphone will have to leave the room and he will be considered absent for that meeting. If no one in the class admits that he/she is the owner of the cellphone, the whole class will receive a cut for that meeting.
5. Other kinds of behavior that disturb the classroom proceedings shall warrant the same punishment as number 4.
6. Sitting-in is allowed but the person who will sit in must ask permission from the teacher before the start of the period. Once the class has started no sit-ins will be allowed to enter the classroom.

7. The SOM Dress Code will be strictly followed. A student who attends the class in inappropriate attire will be sent out and shall be considered absent.
8. Academic dishonesty in any form (ex. Copying in exams, plagiarism, fabrication of data) will warrant a **final grade of F in the course** and a **disciplinary case**.
9. Consultation will be strictly by appointment.

The instructor reserves the right to make changes to this syllabus as the pace and environment of the class dictates.