

ORMS 5310

DATA ANALYSIS AND STATISTICS

Spring 2011 Online

INSTRUCTOR: Joseph S. Mollick Ph.D. **OFFICE HOURS:** MWF 8-9 a.m.; & MWF 10-11a.m.
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COURSE DESCRIPTION:

A study of descriptive statistics, probability distributions, the normal distribution, confidence intervals and hypothesis testing, regression analysis and chi-square.

COURSE PREREQUISITES:

Prerequisite: MATH 1314 and MISY 2305 or equivalents

REQUIRED TEXT: Essentials of Statistics for Business and Economics (4th edition), Anderson, Sweeney, and Williams, Thomson South-Western, Mason, OH, 2007.

COURSE OBJECTIVES:

1. You will enhance your knowledge of quantitative concepts and skills.
2. You will develop an understanding of key statistical concepts used in business.
3. You will learn basic statistical methods of data analysis, founded in probability theory.
4. You will draw statistical inferences using the results obtained by the application of basic statistical methods.
5. You will apply basic statistical methods to data with the help of the statistical applications found in Microsoft Excel.

EXPECTATIONS OF STUDENTS:

1. You are responsible for all materials and assigned readings.
2. You are responsible for turning in all assignments or projects on time.
3. You are responsible for staying informed of assignments, meeting locations, and any changes to the syllabus announced online.
4. You are responsible for doing everything necessary to learn statistics.
5. You are responsible for knowing and abiding by the rules and policies outlined in this syllabus.

INSTRUCTIONAL METHODOLOGY:

Online classes are designed for those who are motivated and able to learn on their own using a textbook, power point slides and other resources without having to meet with the instructor or other classmates face to face. You are encouraged to ask questions and to participate in online class discussions on statistical methodologies and their applications. In addition, you are encouraged to pay attention to commercials and news items in printed as well as audio-visual media to become aware of the wide use of statistics in our daily lives.

DISCUSSION CASES ON STATISTICAL METHODS:

You will be required to use statistical tools to analyze five data sets related to five discussion cases that your instructor will give you. The lowest discussion case grade will be dropped for each student and only the best four discussion case grades will be counted toward each student's course grade. You will have to analyze the data and then interpret the results and submit a paper written in plain English and supported by relevant statistical tables, graphs and numbers generated by software packages such as Excel, MINITAB or SPSS. You are expected to have read the assigned chapter material before coming to each class discussion so that you can meaningfully participate in online class discussions. Meaningful participation means being able to understand comments posted by others and being able to post one's own comments that are rich with some substance of statistical knowledge applied in the context of each discussion case. The best two comments posted by each student during the first three-day discussion period will be counted for each discussion case. Likewise, the best two comments posted by each student during the second three-day discussion period will be counted for each case.

Guidelines for Posting Messages in an Online Discussion Forum in Blackboard

Imagine you are sitting with your classmates around a round table listening to the comments made by each discussant. Each participant carefully reads other participant's comments before posting a comment. Comments must be conceptually connected so that each comment contributes to the central theme of the discussion topic in the context of the discussion case. Each student will prepare a written case report using MS Word. Statistical charts or tables of output prepared using MS Excel must be properly placed in the MS Word document. Each student is required to submit to the instructor both the Word file and the Excel file, even though the Word file must be readable on a standalone basis. Each student may submit the Word file and the Excel file to the instructor as attachments to an e-mail before a discussion begins. Other methods of online submission of files may be available later. Each student can post as many comments as he or she likes for every discussion case in each of the three day long sessions. There are two sessions for each discussion case, each session being three days in length. Each student must post at least two comments in each session of each discussion case. A comment must be about the topic of statistics being covered in the context of each case.

Allocation of points for different components of a discussion case		Points
Best TWO comments posted during the FIRST three days of a discussion case session	10+10= 20 points	20
Best TWO comments posted during the LAST three days of a discussion case session	10+10= 20 points	20
Points for the initial discussion case report submitted by noon of the day a discussion BEGINS	20 points	20
Points for the FINAL discussion case report submitted by noon of the day a discussion ENDS	40 points	40
Total number of possible points for a discussion case		100

UNIT EXAMS :

Your performance will be evaluated on *five* unit examinations. The exam formats will generally be multiple choice, short answer and problems. Lectures, readings, class activities, and suggested homework problems will be the basis of these exams. Many of the questions will be similar to questions for review and discussion. Rather than being purely numerical, problems will be presented in word format. The exams will have to be completed within a limited time interval as specified in the schedule.

How to prepare for the unit exams? Study the chapter in the book and the PowerPoint slides posted at the website. Solve the case and carefully read the comments posted in each discussion. Practice solving the suggested practice problems for each exam. Practice answering the practice quizzes posted at your class website.

MAKEUP EXAMS:

Exams are not to be missed for the convenience of the student. You are expected to schedule other activities around the class exam dates. There will be a 4-day or 96-hour window of opportunity within which each unit exam must be completed. Any unit exam may take at most 90 minutes to complete. Any exam or class activity missed without a pre-approved excuse will be assigned a grade of ZERO.

SUGGESTED STUDY QUESTIONS:

It is the student's responsibility to work the suggested study questions, exercises, and problems posted at the class website. This is how quantitative topics are learned, through practice. Each student is expected to be able to use the spreadsheet software Excel to use tools for producing charts, tables, descriptive statistics, regression and other data analysis tools. Some help on how to use Excel is available in an appendix at the end of each chapter in the textbook.

GRADING:

Your grade in this course will be based on your performance on FIVE exams, and the best four of five discussion cases for each student. The five exams will account for 120 points each and the four discussion cases will each account for 100 points. Course grade will be determined on a 1000-point scale. PERCENTAGES ARE **NOT** USED IN GRADING IN THIS COURSE. IF YOU WANT A PARTICULAR LETTER GRADE YOU **MUST EARN THE MINIMUM NUMBER OF POINTS FOR THAT LETTER GRADE**. For example, for a letter grade of "A" you **must** earn at least 900 points (in other words **899 points IS NOT an "A", 899 points IS a letter grade of "B"**).

COB CODE OF ETHICS:

This course, and all other courses offered by the College of Business (COB), requires all of its students to abide by the COB Student Code of Ethics (available online at www.cob.tamucc.edu) Provisions and stipulations in the code are applicable to all students taking College of Business courses regardless of whether or not they are pursuing a degree awarded by the COB.

STUDENTS WITH DISABILITIES:

The College of Business complies with the **Americans with Disabilities Act** in making reasonable accommodations for qualified students with disabilities. If you have an established disability as defined in the "Act" and would like to request accommodation, please see the instructor as soon as possible (within the first week of class).

INSTRUCTOR STATEMENT:

It is my intention to devote the time, effort, and resources to properly instruct each student, and the class as a whole, in the course subject matter and industrial applications in general. I encourage you to devote the time and effort necessary to succeed in this course. The material in this course is cumulative in the sense that one concept or procedure is built on top of another. Hence, you should strive to keep up with the material and not fall behind.

I encourage you to participate in all aspects of the learning process.

Best wishes for your success in the class.

GENERAL COMMENTS:

1. Doing the assignments is essential to succeeding in this course. You are encouraged to keep up with the suggested homework practice problems and check the answers provided in Appendix D at the end of the textbook.
2. You should not hesitate to ask questions via e-mail but remember the limitations of online communication when you ask a question or try to answer a question posted by others. Usually someone else has the same question, so, by asking in class everyone can benefit from the question. Also, remember your e-mail may not be answered during weekends or in the middle of the night. Ask your question ahead of time and do not expect the instructor or other students to be online 24 hours per day 7 days a week. However, I promise to answer your questions during scheduled office hours.

CLASS SCHEDULE: <http://faculty.tamucc.edu/jmollick/>

The class schedule published at our class website has been prepared to serve as a guide for the semester. Adjustments may be made to this schedule as necessary. Please use the URL given above to access the class schedule online. As we progress, the instructor may highlight some topics and subtopics in certain chapters more than others. A list of practice problems and the data sets are posted at the class website especially for those who did not get a CD with the textbook.

ORMS 5310 Online Schedule Spring 2011			Begins			Ends		
Activity	Chapters in Textbook	Points	Day	Date	Time	Day	Date	Time
Classes begin			W	12-Jan-11				
Syllabus	Read the Syllabus		W	12-Jan-11	noon			
Unit Exam 1	Chapters 1, 2 and 3	120	W	2-Feb-11	noon	Su	6-Feb-11	noon
Unit Exam 2	Chapters 4 and 5	120	W	23-Feb-11	noon	Su	27-Feb-11	noon
Unit Exam 3	Chapters 6 & 7	120	W	23-Mar-11	noon	Su	27-Mar-11	noon
Unit Exam 4	Chapters 8 and 9	120	W	13-Apr-11	noon	Su	17-Apr-11	noon
Unit Exam 5	Chapters 12 and Chapter 3 section 5	120	W	27-Apr-11	noon	Su	1-May-11	noon
	Five Unit Exams	600						
Discussion Case 1	Describing a variable	100						
First three days	Chapters 1, 2 and 3		Su	23-Jan-11	noon	W	26-Jan-11	noon
Last three days	Chapters 1, 2 and 3		W	26-Jan-11	noon	Su	30-Jan-11	noon
Discussion Case 2	Probability and Random Variables	100						
First three days	Chapters 4 and 5		W	9-Feb-11	noon	S	12-Feb-11	noon
Last three days	Chapters 4 and 5		S	12-Feb-11	noon	T	15-Feb-11	noon
Discussion Case 3	Normal Distribution and Sampling Distribution	100						
First three days	Chapters 6 & 7		S	26-Mar-11	noon	T	29-Mar-11	noon
Last three days	Chapters 6 & 7		T	29-Mar-11	noon	F	1-Apr-11	noon
Discussion Case 4	Confidence Intervals and Hypothesis Testing	100						
First three days	Chapters 8 and 9		S	26-Mar-11	noon	T	29-Mar-11	noon
Last three days	Chapters 8 and 9		T	29-Mar-11	noon	F	1-Apr-11	noon
Discussion Case 5	Correlation and Regression	100						
First three days	Chapters 12 and Chapter 3 section 5		S	16-Apr-11	noon	T	19-Apr-11	noon
Last three days	Chapters 12 and Chapter 3 section 5		T	19-Apr-11	noon	F	22-Apr-11	noon
	Best 4 discussions counted	400						
	Course Total	1000						

STATEMENT OF UNDERSTANDING OF THE REQUIREMENTS OF ORMS 5310

I have read the above syllabus and agree to abide by the class policies and procedures set forth therein.

I understand that I must earn at least the minimum required number of points listed in the syllabus to achieve my desired letter grade.

I understand that I am solely responsible for my own work in this course (In other words, I will not turn-in someone else's work as my own).

I understand that academic dishonesty will not be tolerated in this course.

I understand that I am responsible for asking for any necessary clarification to the requirements listed in the course syllabus.

I understand **ALL** of the other written requirements in this syllabus for this course that have not been reiterated on this page.

I understand that I must sign/date this page and hold on to it until the end of the semester.

Signed this the _____ day of _____, 2011.

Print your name: _____

Signature: _____