

Elementary Statistics Oriented Towards Business
Writing to Learn Class
Fall 2008
Course Syllabus

Instructor: Dr. Jayawardhana

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Office Hours: Check the timetable below

Class web page: <http://faculty.pittstate.edu/~ananda/MATH143BUWL.HTML>

Text: Statistics: A First Course, (Eighth Edition) by Freund and Perles, Prentice Hall

Prerequisites: College Algebra

Objectives: The first objective of this course is to learn how to organize, and summarize data. This is done by sorting, creating different displays, tables and graphics, and calculating summary statistics, measures of location and measures of variation. The second objective is to learn how to use probability to analyze data. Students will learn how to use basic definitions of probability, basic rules of probability, counting techniques and measuring the area to calculate probability. In addition some discrete distributions such as binomial distribution and some continuous distributions such as normal distribution will be discussed with their applications to real life problems. The third objective is to learn about the large sample behavior of the sample mean. Students will learn about the Central Limit Theorem and its applications. The fourth objective is to learn about statistical hypotheses and their testing. The fifth objective is to learn about relationships between two variables. Students will learn about simple linear regression and correlation analysis. Overall, students will be exposed to statistical thinking and reasoning. One other major objective of this class is to learn how to use EXCEL and/or Minitab computer package to do basic statistical analysis.

Coverage: Chapter 1: Introduction (1.1-1.7)
Chapter 2: Summarizing Data: Listings and Groupings (2.1-2.4)
Chapter 3: Summarizing Data: Statistical Descriptions (3.1-3.7)
Chapter 4: Possibilities and Probabilities (4.1-4.5)
Test 1 and EXCEL assignment 1 and 2 due
Chapter 5: Some Rules of Probability (5.1-5.3, 5.4, 5.5)
Chapter 6: Probability Distributions (6.1, 6.2, 6.6, 6.7)
Chapter 7: The Normal Distribution (7.1-7.4)
Test 2
Chapter 8: Sampling and Sampling Distributions (8.1-8.4)
Chapter 9: Problems of Estimation (9.1-9.3, 9.5)
Test 3
Chapter 10: Tests Concerning Means (10.1-10.7)
Chapter 12: Regression and Correlation (12.1- 12.5)
Test 4 and EXCEL assignments 3 and 5 due
Final exam will be comprehensive.

Evaluation:	Hour Tests	= 400 points
	Quizzes	= 100 points
	Computer Assignments	= 50 points
	Writing Assignments	= 100 points
	Final	= 200 points

Grading Scale:	90%-100%	= A
	80%-89%	= B
	70%-79%	= C
	60%-69%	= D
	<60%	= F

Instructor keeps the right to lower the scale if necessary.

The Writing Component

Statement of Intent:

You will be expected to write about some concepts you learned during the week and turn it in on next Monday at the beginning of the hour. Late assignments will not be accepted. There will be a quiz every Friday and whenever possible a writing component will be attached to the quiz. Some of the in-class exams may have a writing component, which is worth less than 10% of the total points. You will be expected to write about statistical concepts. Large percentage of points of the writing assignments will be given to the explanation of the concept. Some times it could be as little as one sentence. Writing will be an integral part of this course and you will be expected to express yourself clearly and accurately. Neatness will be counted in the grading. You are encouraged to go to the Writing Center if you need help. There will be very little group work but class discussions will be encouraged.

Philosophy of Writing:

Clear thinking and presenting is very important in statistics. Often analyzing data and reporting results involves a lot of organizational, analytical, and presenting skills. You will be successful if a non-statistician could understand your writing and if you could understand a well-written statistical report or paper meant for general audience. Writing will help improve your statistical thinking and eventually clear statistical thinking will improve your ability to reason.

Weekly Writing Assignment:

Instructor will assign a topic for each week at the beginning of the week. These assignments should be about one to two pages long. All the assignments should be double-spaced and typewritten. If you use excessive amount of space for formulae make sure that you have at least one page worth of writing. Please write on one side only. Please staple the sheets from the left-hand top corner. Ten percent of the grade of writing

assignments will be given to neatness. During the first half of the semester you will be given an opportunity to improve your writing based on your instructor's comments and only the second draft will be graded. At the end, weekly writing assignments will be scaled to 100 points.

Weekly Writing Assignment Guidelines:

- Explain the **concept** of the topic in your words: definition, formula, and intuition behind the definition and formula if possible (could be as much as 50% of the grade)
- Write about how to apply the concepts, any rules related to the topic, how to use tables if applicable, any exceptions to the rules, etc.
- Relate this topic to real life situations if possible and give an example
- If possible report about a related magazine or newspaper article, research article, or radio or television program

General Comments

Regular attendance is expected, but it is not counted in your grade. **It is your responsibility to drop the class if you are no longer interested in this class.** Exam dates will always be announced at least two class sessions ahead of time. The last in-class exam may be given during the last week of classes. There will be at least one quiz every week. No make-up will be given for these quizzes unless prior arrangements are made with the instructor, but the lowest score from the quizzes will be dropped. At the end quizzes will be scaled to 100 points. You are expected to do the suggested homework. If you have questions, please ask me in class or out of class. No tests will be made up except for absences due to official university activities or health problems with a Dr.'s excuse.

If you have a special need addressed by the **Americans with Disabilities Act**, please notify me immediately so that appropriate accommodations can be provided. Also contact the Director of Equal Opportunity, 233 Russ Hall (Tel. 235-4189) for official assistance.

Suggested Homework

Chapter 1:	1.2, 1.5, 1.8, 1.11, 1.14
Chapter 2:	2.6, 2.11, 2.21, 2.22, 2.30, 2.31, 2.40
Chapter 3:	3.8, 3.19, 3.31, 3.35, 3.41, 3.48, 3.49, 3.51, 3.60, 3.65, 3.86, 3.89
Chapter 4:	4.9, 4.26, 4.28, 4.36, 4.38, 4.41, 4.43, 4.51, 4.56, 4.58, 4.75
Chapter 5:	5.5, 5.12, 5.13, 5.14, 5.24
Chapter 6:	6.2, 6.12-6.17, 6.61, 6.63, 6.68, 6.69
Chapter 7:	7.1, 7.8-7.13, 7.15, 7.25-7.28
Chapter 8:	8.3, 8.18, 8.21, 8.37, 8.38
Chapter 9:	9.5, 9.7, 9.13, 9.20, 9.30, 9.46, 9.47, 9.56
Chapter 10:	10.16, 10.19, 10.24, 10.25, 10.42, 10.44
Chapter 12:	12.3, 12.13, 12.27

Instructor's Time-table

	Monday	Tuesday	Wednesday	Thursday	Friday
8.00-8.50 MWF 8.00-9.00 TTH	Math 143-01 (WL) YH 215	Office	Math 143-01 (WL) YH 215	Office	Math 143-01 (WL) YH 215
9:30-10.45 TH	Office	Math 749 Yates 216	Coffee	Math 749 Yates 216	Office
10.00-10.50 MWF	Math 543 YH 106		Math 543 YH 106		Math 543 YH 106
11.00-12.00 TH	Office	Office	Office	Office	Office
12.00-12.50 MWF	Math 143-04 (WL) YH 215	Lunch	Math 143-04 (WL) YH 215	Lunch	Math 143-04 (WL) YH 215
1.00-2.00	Lunch		Lunch		Lunch
2.00-3.00					

* Note that from 2.00 p.m. to 4.00 p.m. there are other commitments such as independent studies, departmental meetings, departmental colloquia etc. You are encouraged to use the office hours allocated before 2.00 p.m. If my office hours conflict with your other classes please let me know.

Other Issues

Please take clear notes.

Please let me know if I am going faster than your pace.

Please participate in class activities.

Please ask questions in class, after the class or in my office.

Please answer my questions and participate in class.

Please make friends in class and share notes, study together etc.

Please use my office hours anytime you need help. I care about you and your success.

I am open to your reasonable suggestions.

Tentative Weekly Writing Assignments: Instructor keeps the right to change the assignments.

- 1) Write about you
- 2) Nominal, ordinal, interval, and ratio data
- 3) Advantages of summarizing data
- 4) Differences between mean and median
- 5) Differences between measures of location and measures of variance
- 6) Differences between permutation and combinations
- 7) Set operation
- 8) Probability
- 9) Normal distribution
- 11) Central limit theorem
- 12) Confidence interval
- 13) Testing statistical hypotheses
- 14) Regression and correlation

There will be mini writing assignments and work problems in class almost all class meetings.