STATISTICS 1510 A2/B2

Introduction to Applied Statistics
Fall 1996

Grande Prairie Regional College

ROOM:	Lecture:	ST1510 A2	J 203	MWF	14:00 - 14:50
		ST1510 B2	J 101	MWF	13:00 - 13:50
	Lab:	ST1510 AL1	A201	Thur.	8:00 - 9:50
		ST1510 AL2	A201	Tues.	8:00 - 9:50
		ST1510 BL1	A201	Wed.	8:00 - 9:50

INSTRUCTOR:
Lecture A2/B2 Dr. Eric Chislett, C409
Lab AL2/BL1 Dr. Eric Chislett, C409
Lab AL1 Mr. Tom Kaip, J212

TEXT:
Introduction to the Practice of Statistics, Second Edition by D.S. Moore and G.P.McCabe.

Data Analysis Using Excel 5.0, by M.R. Middleton

ASSESSMENT:
Your grade will be determined in the following manner:

Assignments	10%	
Lab Reports	10%	
Midterm Exam	20%	Fri. Oct. 25
Lab Exam	20%	Tues Dec 3, Thur Dec 5
Final Exam	40%	

EXAMS:
Exams will be closed book. A hand calculator is necessary. A formula sheet will be provided for the midterm and final exams.

MISSED EXAMS:
There is no make-up exam for the midterm or lab exam. Students who miss them for a valid reason, such as illness, will have the weight transferred to the final. Students who miss the final exam must apply for a deferred exam through the registrars office.

Statistics 1510 is an introductory statistics course focusing on statistical reasoning and data analyses. Mathematical theory is kept to a minimum. Students have assess to a computer lab and so are able to work with a variety of data sets. You will be taught in the labs how to use the statistical part of the spreadsheet EXCEL and you will learn how to make proper lab reports.

The following course outline is based on the text Introduction to the Practice of Statistics, second edition, by Moore and McCabe:

PART I	Looking at data & producing data	Chapters 1-3
PART II	Introduction to Probability & Statistics	Chapters 4-6
PART III	Basic applications of statistical inference	Chapters 7-10
NOTE:	Sections 2.3, 5.3, 9.2, 10.2 are omitted.	

Chapter	Approximate Lecture Time	Summary
1	3.5 hrs	Looking at data: distributions. Graphical displays, summary statistics, normal distribution.
2	3.5	Looking at data: relationships, scatterplots, least squares regression, correlation, two-way tables, causation.
3	2	Producing data: design of experiments, sampling, randomization.
4	5	Probability: the study of randomness, probability models, random variables, means and variances, conditional probability.
5	3	From probability to inference. Counts and proportions, sample means.
6	4	Introduction to inference, confidence intervals, tests of significance.
7	4	Inference for distributions, One-sample and two-sample t procedures.
8	3	Inference for count data, one and two proportions, two-way tables.
9	4	Simple linear regression, Inference for regression.
10	3	Analysis of variance, one-way ANOVA.
Total	35	

STATISTICS 1510 A2
HOMEWORK ASSIGNMENTS
Fall 1996

There are 5 homework assignments for this course. All problems are taken from your textbook "Introduction to the Practice of Statistics" by Moore and McCabe.

Solving assignment problems is an excellent way to master the texture and lecture material of this course. We suggest that you try to solve other exercises from the text, even the one's that are not assigned.

Whenever you solve an assignment problem, show your work. That means, in addition to giving the answer, you should briefly recap the formula or method used in the problem.

Submitting Assignments:

Completed assignments are to be handed in to the instructor either before or after class or directly into his office before 5:00 pm on the due date.

Assignments are due according to the following schedule. Any changes to this will be announced in the lecture.

Assignment No	Chapters	Due Date
1	1	5:00 pm. Mon. Sept. 23
2	2 - 3	5:00 pm. Mon. Oct. 7
3	4 - 4	5:00 pm. Mon. Oct. 28
4	6	5:00 pm. Mon. Nov. 14
5	7 - 8	5:00 pm. Mon. Dec. 2

Part of your assignment is to read the corresponding sections of the textbook. Although material for each assignment is usually done in class prior to the due date, sometimes it may be necessary for you to read ahead to complete your homework. In any case,
NO LATE ASSIGNMENTS WILL BE ACCEPTED.

Solutions to these assignments will be posted outside C409.

FORMAT OF ASSIGNMENTS:

1. The first page will contain ONLY your name and I.D., Course no. and name, assignment no., date, and instructors name.
2. Questions must be submitted in the same order as listed.
3. All pages must be **stapled** together. (paper clips, folded corners, etc. are not acceptable)
4. Use a **ruler** when constructing graphs and tables, and label axes of graphs.

STATISTICS 1510 A2
HOMEWORK ASSIGNMENTS
Fall 1996

Chapter 1:

1.	page 26	No. 1.20
2.	page 28	No. 1.26
3.	page 53	No. 1.48
4.	page 55	No. 1.56
5.	page 80	No. 1.76
6.	page 80	No. 1.78
7.	page 83	No. 1.94
8.	page 83	No. 1.95
9.	page 89	No. 1.111
10.	page 89	No. 1.112

Chapter 2:

1.	page 139	No. 2.24
2.	page 139	No. 2.26
3.	page 159	No. 2.43
4.	page 177	No. 2.48
5.	page 181	No. 2.64
6.	page 195	No. 2.78

Chapter 3:

1.	page 274	No. 3.68

Chapter 4:

1.	page 301	No. 4.12
2.	page 303	No. 4.20
3.	page 304	No. 4.28
4.	page 305	No. 4.30
5.	page 320	No. 4.42
6.	page 339	No. 4.65
7.	page 340	No. 4.66
8.	page 357	No. 4.76

Chapter 5:

1.	page 388	No. 5.6
2.	page 389	No. 5.10
3.	page 391	No. 5.20
4.	page 403	No. 5.28
5.	page 405	No. 5.34
6.	page 407	No. 5.46

Chapter 6:

1.	page 442	No. 6.2
2.	page 443	No. 6.6
3.	page 443	No. 6.8
4.	page 445	No. 6.16
5.	page 446	No. 6.20
6.	page 467	No. 6.28
7.	page 469	No. 6.32
8.	page 471	No. 6.42
9.	page 489	No. 6.54
10.	page 491	No. 6.58

Chapter 7:

1.	page 520	No. 7.8
2.	page 521	No. 7.10
3.	page 524	No. 7.20
4.	page 528	No. 7.32
5.	page 549	No. 7.38
6.	page 553	No. 7.48
7.	page 564	No. 7.64

Chapter 8:

1.	page 588	No. 8.14
2.	page 589	No. 8.18
3.	page 598	No. 8.30
4.	page 622	No. 8.40

Chapter 9:

Exercises on regression will be completed in the lab.

Chapter 10:

Do not hand these in.

1.	page 752	No. 10.9
2.	page 755	No. 10.17

STATISTICS 1510 A2
LABORATORY ASSIGNMENTS
Fall 1996

The Computer Labs in Statistics 1510 are designed so that you can gain experience working with realistic data sets, familiarize yourself with the use of a computer for statistical analysis, and to help you understand the course material.

This term we are using a spreadsheet software package in the labs, Microsoft EXCEL, instead of a dedicated statistics program.

EXCEL has advantages and disadvantages. The advantages are obvious; it is a popular program that many of you already have on a home computer, it is fairly easy to learn, and it is a common tool in business, in industry, and in home environments. It can also be used as a word processing package.

The disadvantages are less obvious. It is not as statistically powerful (and in some cases not as easy to use) as software specifically designed for statistical analysis. When professional statisticians are brought data in EXCEL format for consulting work, they will convert it so that it can be analyzed in a dedicated system. If you wish to be a statistician you will take further statistics courses which use dedicated statistics packages.

There are some (elementary) statistical routines that EXCEL cannot do for you. No software package is perfect.

Completing Labs:

Room A ? and other computer rooms throughout the college are open daily and most have EXCEL available. Schedules of when each lab is available for general use is on the doors. The LRC has a number of computers with EXCEL.

You must attend all labs when scheduled and you will normally complete 80 - 100% of the lab assignment during the scheduled time.

You will need one 3 ½ disk to save your work from day to day.

Submitting Lab Reports:

Completed labs are to be submitted to the instructor or his office before ~~noon~~ 5 pm. on Monday following the week of the scheduled lab.

Lab Reports must be in printed form. Remember to keep a back-up of either print or disk format.

STATISTICS 1510 A2
LABORATORY ASSIGNMENTS
Fall 1996

Lab Topics:

There are 13 scheduled lab periods this term. There will be 10 formal lab reports to be submitted.

Sept 10/12	Introduction to Excel and the Data Analysis Tool-Pack
Sept 17/19	Lab 1 Formatting Output and Frequency Distributions
Sept 24/26	Lab 2 Data Descriptions
Oct 1/3	Lab 3 Normal Quantile Plots
Oct 8/10	Lab 4 Linear Regression and Correlation
Oct 15/17	Lab 5 Time Series and Sampling Distributions
Oct 22/24	Probabilities and inverses probabilities in EXCEL, binomial and discrete distributions
Oct 29/31	Lab 6 Correlation and Sampling Distributions
Nov 5/7	Lab 7 Confidence Intervals and Hypothesis Testing
Nov 12/14	Lab 8 Two sample Statistical Inference
Nov 19/21	Lab 9 Linear Regression I
Nov 26/28	Lab 10 Linear Regression II
Dec 3/5	Lab Exam

Due Dates and Times

Lab Reports are to be submitted to your lab instructor no later than ~~noon~~ 5 pm., Mon., following the week in which the lab is given.

NO LATE LABS WILL BE ACCEPTED.

FORMAT OF LABS:

1. Lab reports will include complete answers to the questions.
2. Questions are to appear in order. It is your responsibility to format your pages so as to present a properly written report. Label all answers as you would if you were hand-writing the submission. (Number all questions and label your answers so that they can be easily identified.)
3. Each page will have a heading which will include your name, ID number, date, course, and lab number and title.
4. All pages must be stapled together (paper clips, folded corners, etc., are not acceptable). All reports should be two or three pages long.
5. A sample lab report is attached.