Grande Prairie Regional College

School of Business

Department: Business Administration and Commerce

COURSE OUTLINE – WINTER 2010

MG 3120 3(3-0-1) UT

Applied Statistics for Business and Economics II

Instructor	Charles Backman	**Phone**	539 – 2846 (office)
Office	C413	**E-mail**	cbackman@gprc.ab.ca

Office Hours M & W: 11:30 – 1:00 pm or by appointment

Prerequisite(s):
MS3010 or ST1510

Required Text/Resource Materials:
Berenson, Leviine, Krehbiel, Basic Business Statistics, Eleventh Edition, Prentice hall, 2009. Under review

THE TEXT WILL BE USED EXTESIVELY. A calculator with Stats functions, preferably the Sharp EL-733A. A microcomputer and the statistical software, SPSS for windows, and is available in J131.

Description
Statistical inference for variance; statistical inference for the means; proportions and variances from two populations; analysis of variance; non-parametric statistics; joint probability distributions; covariance; correlation and independence; contingency tables; simple linear regression; multiple linear regression; non-linear regression; and time series analysis are topics covered in the course.

To integrate the computer use into the course, demonstrations will be done during the class time and assignments will be given throughout the semester. At the end of the course, the students should have the skills of data entry, model building, statistical calculation & output, output interpretation.

Credit /Contact Hours:
This is a 3 credit course with 3 hours of lecture per week and 1 hour of lab per week . The 1 hour of lab will take place as a 2 hour lab every other week. A total of 60 hours are assigned for this course. Students are expected to attend all lectures and lab sessions.

Delivery Modes:
For each topic listed, there will be a classroom lecture/ discussion and a demonstration of related statistical procedures. I will assign relevant textbook readings and problems, review key topic points regularly. Assignments and class tests will be scheduled to test your knowledge, understanding, and application of the material.

Regular classroom attendance is expected. Please do not be late. You should **study** each assigned reading both before and after it is discussed in class; apply your understanding by class participation and solving the required problems; ask questions in the class; come and see me during my office hours or make an appointment to clear up any misunderstandings or uncertainties about material covered in the class; and demonstrate your mastery of the subject matter whenever you get the chance – exams, assignments, and class participation.
For strong understanding of the concepts in this course requires a great commitment of time and team-work. Plan your schedule accordingly. Do not fall behind in the assigned readings and problems because it is difficult to catch up.

It may be necessary to reschedule one or two classes during the semester. Every reasonable effort will be made to accommodate students in the event that this is necessary.

Transferability:
University of Alberta; University of Calgary*; University of Lethbridge; Athabasca University; Concordia University College; Canadian University College; King's University College*; Augustana University College.
An asterisk* beside any transfer institution indicates important transfer information. Consult Alberta Transfer Guide.

Objectives:
To understand the objectives of statistics, the information that it generates, and how the information can be used in students' business careers.
To create an awareness of different types of situations where it can be used to excel and compete in the field of business.
To develop the ability to use computer and computer software(s) in order to present the information in a standard professional format.

Grading Criteria:

Assignments
Three assignments 10%

Laboratories
Lab assignments 20%
There are between 5 lab assignments

Exams
First Exam 20%
Second Exam 20%
Third Exam 20%

Participation
Lecture/lab 10%

Assignment and Exam Policies:

1. Assignments will be handed in at the beginning of class on the due date.
2. Exams will be written as scheduled.
3. Final examinations will be scheduled by the Registrar during the period of normal exams in April, 2010. **Do not plan any activities during this period.**
4. Exams will take place during the time set aside for the stat labs. The exam will be a sit down using a computer format.

Grades will be assigned on the Letter Grading System.

Alpha Grade	4-point Equivalent	Percentage Guidelines	Designation
A+	4	90 – 100	EXCELLENT
A	4	85 – 89	
A–	3.7	80 – 84	FIRST CLASS STANDING
B+	3.3	76 – 79	
B	3	73 – 75	GOOD
B–	2.7	70 – 72	
C+	2.3	67 – 69	SATISFACTORY
C	2	64 – 66	
C–	1.7	60 – 63	
D+	1.3	55 – 59	MINIMAL PASS
D	1	50 – 54	
F	0	0 – 49	FAIL

Course Schedule

Outline

Week 1 Jan 3-9

- Introduction and data collection

Reference: Chapter 1

Week 2 Jan 10-16

- Review of some important discrete probability distribution/The Normal distribution

Reference: Chapters 5 and 6

Week 3 Jan 17-23

- Review of sampling and sampling and sampling distributions

Reference: Chapter 7

Week 4 Jan 24-30

- Review of confidence intervals

Reference: Chapters 8

Week 5 Jan 31 - Feb 6

- Review of hypothesis testing

Reference: Chapter 9

Week 6 Feb 7 -13

Exam 1 (Weeks 1 through 4)

- Two sample tests

Reference: Chapter 10

Week 7 Feb 14-20
Reading Week

Week8 Feb 21-27

- Analysis of variance

Reference: Chapter 11

Week 9 Feb 28 - Mar 6

- Chi squared and non parametric tests

Reference: Chapter 12

Week 10 Mar 7-13

- Bivariate analysis for quantitative variables

Reference: Chapter 3 and 13

Week 11 Mar 14-20

- **2nd Exam (Week 5, 6, 8 and 9)**
- Simple linear regression

Reference: Chapter 13

Week 12 Mar 21-27

- Linear/Multiple linear regression

Reference: Chapters 13 and 14

Week 13 Mar 28-April 3

- Multiple regression

Reference: Chapter 14

Week 14 Apr 4-10

- Multiple regression model building

Reference: Chapter 15

Week 15 Apr 11-13

- Review for final

Final exam (Week 10, 11, 12, 13, and 14)

- **The instructor reserves the right to change or cancel any of these dates and topics.**

LABORATORY SCHEDULE

There is a 1 hour lab attached to the 3 hour lecture per week. In order to get the most out of the lab sessions, the 1 hour lab time per week will occur as a 2 hour lab every other week or as identified in the attached schedule.

There are two objectives linked to the attached laboratories: (1) review familiarity with Excel as a tool in statistical analysis; (2) Application of statistical techniques learned in class time to real life problems.

Week	Laboratory #	Topic	
Two	One	Methods of describing sets of data	
Four	Two	Random variables and probability distributions/inferences based on a single sample	
Six	Three	Single sample test of hypotheses and two sample confidence intervals and test of hypotheses	
Nine	Four	Comparing more than two means/Chi squared and contingency tables	
Eleven	Five	Bivariate analysis and simple regression	

Twelve	Six	Multiple linear regression/model building	
Thirteen	Seven	Multiple linear regression/model building (cont'd)	

Modified: May 5, 2009