DEPARTMENT OF BUSINESS

COURSE OUTLINE – WINTER 2012

MG 3120 – Applied Statistics for Business and Economics II

INSTRUCTOR:	Charles A. Backman	**PHONE:**	780 539 2846
OFFICE:	C413	**E-MAIL:**	cbackman@gprc.ab.ca
OFFICE HOURS:	TBD		

PREREQUISITE(S):
MS3010 or ST1510

REQUIRED TEXT/RESOURCE MATERIALS:
Groebner, David, Patrick Shannon, Phillip Fry, and Kent Smith, 2011, Business statistics – A decision making approach, 8th edition, Pearson/Prentice-Hall, 912 pp.

CALENDAR 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; marginal and conditional distributions; covariance; correlation and independence; contingency tables; simple linear regression; multiple linear regression; nonlinear regression; and time series analysis are topics covered in the course

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 MODE(S):
Lecture and laboratory

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 in order to present the information in a standard professional format.

TRANSFERABILITY:

**** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability.**

GRADING CRITERIA:

Quizzes

Up to 10 Quizzes – 10%

Assignments

Three assignments - 15%

Laboratories

Lab assignments 20%
There are between 5 and 7 lab assignments

Exams

First Exam 15%
Second Exam 15%
Third Exam 15%

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 and may be 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**

EXAMINATIONS:

There are three Exams in this course. Each exam is non cumulative to the extent that material covered in prior classes is not required to understand the current material.

STUDENT RESPONSIBILITIES:

Each student is expected to come to class **on time**, having read the material and completed the assignments. Note that participation marks will be based not only on the contribution made to the class by the student but also on professionalism exhibited. **Note:** The use of cell phones is unprofessional and is distracting to the instructor and fellow students.

STATEMENT ON PLAGIARISM AND CHEATING:

Please refer to pages 49-50 of the College calendar regarding plagiarism, cheating and the resultant penalties. These are serious issues and will be dealt with severely.

COURSE SCHEDULE/TENTATIVE TIMELINE:

Week 1 Jan 1-7 (Classes start Thursday January 5, 2012)

- No class this week

Week 2 Jan 8-14

- Introduction (Distribute course outline)
- Data collection and description

Reference: Chapter 1, 2, 3

- Review of some important discrete probability distribution

Reference: Chapters 5

Week 3 Jan 15-21

- The Normal distribution

Reference: Chapter 6

- Review of sampling and sampling and sampling distributions

Reference: Chapter 7

Week 4 Jan 22-28

- Review of confidence intervals

Reference: Chapters 8

Week 5 Jan 29-Feb. 4

- Review of hypothesis testing

Reference: Chapter 9

Week 6 Feb 5-11

Exam 1 (Weeks 1 through 4)

- Two sample tests

Reference: Chapter 10

Week 7 Feb 12-18

- Analysis of variance

Reference: Chapter 12

Week 8 Feb 19-25

Reading week

Week 9 Feb 26-Mar 3

- Chi squared and non parametric tests

Reference: Chapter 11

Week 10 Mar 4-10

- **2nd Exam (Week 5, 6, 7 and 9)**

- Bivariate analysis for quantitative variables

Reference: Chapter 14

Week 11 Mar 11-17

- Simple linear regression

Reference: Chapter 14

Week 12 Mar 18-24

- Linear/Multiple linear regression

Reference: Chapters 14 and 15

Week 13 Mar 25-31

- Multiple regression

Reference: Chapter 15

Week 14 Apr 1-7

- Multiple regression model building

Reference: Chapter 15

Week 15 Apr 8-12 (Thursday)

3rd 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	
One			
Two	Lecture	Data collection and description	
Three	One	Methods of describing sets of data	Kentucky Milk Case P.1 or Similar
Four	Two	Random variables and probability distributions/inferences based on a single sample	Furniture Fire Case or similar

Five	Three	Single sample test of hypotheses and two sample confidence intervals and test of hypotheses	Kentucky Milk Case P. 2 or similar
Six	EXAM I	Weeks One through Four	Ch. 1, 2, 3, 5, 6, 7, and 8
Seven			
Eight	Reading Break		
Nine	Four	Comparing more than two means/Chi squared and contingency tables	Discrimination in the work place or similar
Ten	EXAM II	Weeks Five through Nine	Ch. 9, 10, 11, and 12
Eleven	Five	Bivariate analysis and simple regression	TBD
Twelve	Six	Multiple linear regression/model building	Condo Sales Case or similar
Thirteen	Seven	Multiple linear regression/model building (cont'd)	Condo Sales Case or similar
Fourteen			
Fifteen	Exam III	Weeks Ten through Fourteen	Ch. 14 and 15

Modified: January 8, 2012