



DEPARTMENT OF BUSINESS

COURSE OUTLINE – WINTER 2016

MG 3120 – Applied Statistics For Business And Economics II – 3 (3-0-1) 60 Hours

INSTRUCTOR: Charles A. Backman, **PHONE:** 780 539 2846
PhD
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OFFICE HOURS: TBD

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.

PREREQUISITE(S)/COREQUISITE:

ST1510

REQUIRED TEXT/RESOURCE MATERIALS:

Groebner, David, Patrick Shannon, Phillip Fry, 2014, Business statistics – A decision making approach, 9th edition, Pearson/Prentice-Hall, 884 pp.

DELIVERY MODE(S):

Lecture and Laboratory

COURSE OBJECTIVES:

This course introduces students to:

1. The scientific method of analyzing problems and identify where in the statistical analytical process that the outcome can be manipulated;
2. Different statistical tools that can be used to understand complex situations;
3. Computer and computer software to facilitate the analytical process;
4. Standard format by which to present statistical report to decision makers.

LEARNING OUTCOMES:

As a result of taking this course, students will gain the ability to:

1. Identify which statistical tool can be used to unbundle a specific problem;
2. Present outcomes and recommendations flowing from an analysis in a format that is accessible to a decision maker;
3. Use standard statistical software embedded in Excel to analyze complex problems, extract relevant information to support the analysis and recommendations, and insert into word documents.

TRANSFERABILITY: (as of December 1, 2015)

(Click on the links for details and any applicable transfer conditions that may apply)

- [Athabasca University: MGSC 312 \(3\)](#)
- [Canadian University College: BUAD 3xx \(3\)](#)
- [Concordia University College of Alberta: BUS 2xx \(3\)](#)
- [King's University College, The: BUSI 3xx \(3\)](#)
- [MacEwan University: MGTS 312 \(3\)](#)
- [University of Alberta: MGTSC 312 \(3\) OR AUSTA 2xx \(3\)](#)
- [University of Calgary: STAT 217 \(3\)](#)
- [University of Lethbridge, The: STAT 2780 \(3\)](#)

What does 1xx, 1xxx, Jr. or Sr. mean? This indicates *unspecified* credit. The course is not close enough in content to a receiving institution course to be given credit for a specific receiving institution course. However, it will transfer as an option. Institutions have various ways of indicating non-specific course options which also designate the level of study (i.e., a junior-level option might be Jr. ENGL, ENGL 1xx or 2xx, or ENGL 1xxx).

REMINDER: Transfer agreements specified in the Online Alberta Transfer Guide may be dependent on the particular program a student wishes to enter. If a student switches to an unrelated program, courses may not be fully transferable

** 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

EVALUATIONS:

GRADING CRITERIA: (The following criteria may be changed to suite the particular course/instructor)

Quizzes

Four Quizzes – 12%

Assignments

Three assignments - 12%

Laboratories

Five Lab assignments - 20%

Exams

First Test 11%

Second Test 15%

Final Exam 30%

3rd Exam (Cumulative) During Regularly scheduled Exam Time

Please note that Universities will not accept your course for transfer credit **IF** your grade is **less than C-**. This means **DO NOT GET LESS THAN “C-” IF YOU ARE PLANNING TO TRANSFER TO UNIVERSITY.**

Alpha Grade	4-point Equivalent	Percentage Guidelines		Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100		C+	2.3	67-69
A	4.0	85-89		C	2.0	63-66
A-	3.7	80-84		C-	1.7	60-62
B+	3.3	77-79		D+	1.3	55-59
B	3.0	73-76		D	1.0	50-54
B-	2.7	70-72		F	0.0	00-49

COURSE SCHEDULE/TENTATIVE TIMELINE: Move to be placed here.

Week 1 December 29 – Jan 2

- No classes

Week 2 Jan 4-8

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

Reference: Chapter 1, 2, 3

Week 3 Jan 11-15

Hand out Quiz ONE

- Data collection and description

Reference: Chapter 1, 2, 3

- Review of some important discrete probability distribution

Reference: Chapters 5

Week 4 Jan 18-22

Hand in Quiz ONE

Hand out Quiz TWO

Hand out Assignment ONE

- The Normal distribution and other continuous probability distribution functions

Reference: Chapter 6

- Review of sampling and sampling and sampling distributions

Reference: Chapter 7

Week 5 Jan 25-29

- Review of estimation of single population parameters

Reference: Chapters 8

Hand in Assignment ONE

Week 6 Feb 1-5

Hand in Quiz TWO

- Review of hypothesis testing

Reference: Chapter 9

Week 7 Feb 8-12

Test 1 (Weeks 1 through 5)

Week 8 Feb 15-19

Reading week

Week 9 Feb 22-26

Hand out Quiz THREE

Hand out Assignment TWO

- Two sample tests

Reference: Chapter 10

- Analysis of variance

Reference: Chapter 12

Week 10 Feb. 29 – Mar. 4

- Analysis of variance

Reference: Chapter 12

- Chi squared and non parametric tests

Reference: Chapter 11

Hand in Assignment TWO

Hand in Quiz THREE

Week 11 Mar 7-11

- **2nd Test (Weeks Six through Ten inclusive)**

Week 12 Mar 14-18

Hand out Quiz FOUR

- Bivariate analysis for quantitative variables
- Simple linear regression

Reference: Chapter 14

Week 13 Mar 21 – 25

Hand out Assignment THREE

- Linear/Multiple linear regression

Reference: Chapters 14 and 15

Week 14 Mar. 28 –April 1

Hand in Quiz FOUR

- Multiple regression

Reference: Chapter 15

Week 15 Apr 4-8

Hand in Assignment THREE

- Multiple regression model building

Reference: Chapter 15

Week 16 April 11 - 13

- Review

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

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:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Admission Guide at <http://www.gprc.ab.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at www.gprc.ab.ca/about/administration/policies/**

**Note: all Academic and Administrative policies are available on the same page.