



DEPARTMENT OF BUSINESS

COURSE OUTLINE – WINTER 2020

MG 3120 A3– APPLIED STATISTICS FOR BUSINESS AND ECONOMICS II – 4 (3-0-1)

60 Hours, 15 Weeks

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:

Statistics For Business and Economics 14th Edition, by Anderson Sweeny and Williams with WebAssign Access Code

Microsoft Excel will be used to assist with the statistical calculations for the seminar.

DELIVERY MODE(S):

Lecture and Seminar

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: Quizzes and Assignments will be completed in the WebAssign linked to this course. You will have two tries for each assignment and quiz. The highest mark received of the two will be entered into the grade book.

Test One and Two will be conducted during class/seminar time.

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

GRADING CRITERIA:

Quizzes – 10%

- a. (5%) Chapters 1 through 10 (excl. chap. 4) – Best 5 out of 9

b. (5%) Chapters 11 through 21 (excl. chap. 18, 19, and 20) – Best 5 out of 8

Assignments – 10%

- a. (5%) Chapters 1 through 10 (excl. chap. 4) – Best 5 out of 9
- b. (5%) Chapters 11 through 21 (excl. chap. 18, 19, and 20) – Best 5 out of 8

Exams – 80%

First Test - 20% (Chapters 1 through 6 [excl. 4])
Second Test - 20% (Chapters 7 through 11)
Final Exam - 40% (Cumulative)

3rd Exam (Cumulative) During Regularly scheduled Exam Time

IN ORDER TO GAIN CREDIT FOR THIS COURSE, YOU MUST HAVE A CUMULATIVE GRADE SCORE OF 50% AND AT LEAST A 50% IN THE FINAL EXAM.

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.

COURSE SCHEDULE/TENTATIVE TIMELINE:

Week 1 Dec. 31 – Jan. 3

- No classes

Week 2 Jan 6-10

- Introduction (Distribute course outline)
- Students sign up for Web Assign during Monday Seminar/Lecture

- Data collection and description

Reference: Chapter 1, 2, 3

Week 3 Jan 13-17

- Data collection and description

Reference: Chapter 1, 2, 3

- Review of some important discrete probability distribution

Reference: Chapters 5

Week 4 Jan 20-24

- Review of some important discrete probability distribution

Reference: Chapters 5

- The Normal distribution and other continuous probability distribution functions

Reference: Chapter 6

Week 5 Jan 27-31

Exam ONE (Chapters 1 through 6 [excl. 4])

- Review of sampling and sampling distributions

Reference: Chapter 7

Week 6 Feb 3-7

- Review of estimation of single population parameters

Reference: Chapters 8

- Review of hypothesis testing

Reference: Chapter 9

Week 7 Feb 10-14

- Review of hypothesis testing

Reference: Chapter 9

- Two sample tests

Reference: Chapter 10

Week 8 Feb 17-21

Reading week

Week 9 Feb 24-28

- Inferences about Population Variances

Reference: Chapter 11

Week 10 Mar. 2 – Mar. 6

Exam Two (Chapters 7 through 11)

- Comparison of multiple proportions and Goodness of Fit

Reference: Chapter 12

Week 11 Mar 9-13

- Comparison of multiple proportions and Goodness of Fit

Reference: Chapter 12

- Analysis of Variance

Reference: Chapter 13

Week 12 Mar 16-20

- Analysis of Variance

Reference: Chapter 13

- Bivariate analysis for quantitative variables

- Simple linear regression

Reference: Chapter 14

Week 13 Mar 23 – 27

- Linear/Multiple linear regression

Reference: Chapters 14, and 15

Week 14 Mar. 30 –April 3

- Multiple regression and model building

Reference: Chapter 15 and 16

Week 15 Apr. 6-10

- Time series analysis and forecasting

Reference: Chapter 17

- Statistical methods for quality control

Reference: Chapter 21

Week 16 Apr. 13 (Monday Only)

- Statistical methods for quality control

Reference: Chapter 21

EXAM PERIOD: April 15 – 25, 2020

- **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.