



DEPARTMENT OF BUSINESS AND OFFICE ADMINISTRATION

COURSE OUTLINE – Fall 2021

BA2060 A2: Statistics for Business – 3 (3-0-2) UT 75 Hours for 15 Weeks

Grande Prairie Regional College respectfully acknowledges that we are located on Treaty 8 territory, the traditional homeland and gathering place for many diverse Indigenous peoples. We are honoured to be on the ancestral lands of the Cree, Dene/Beaver and Métis, whose histories, languages, and cultures continue to influence our vibrant community. We are grateful to have the opportunity to work, learn, and live on this land.

INSTRUCTOR: Dr. Chuntai Jin **PHONE:** (780) 539-2857
OFFICE: C309 **E-MAIL:** cjin@gprc.ab.ca
OFFICE HOURS: Tuesdays & Thursdays, 1:00-2:30 PM via Zoom

CALENDAR DESCRIPTION:

This is an introduction to the use of random variables, descriptive statistics, probability, the binomial and normal probability distributions, estimation, small and large sample theory, analysis of variance, tests of hypotheses, regression analysis, forecasting, time series and linear programming is provided. Practical applications are emphasized in the course.

PREREQUISITE(S)/COREQUISITE:

BA1050

REQUIRED TEXT/RESOURCE MATERIALS:

- Sharpe, De Veaux, Velleman, & Wright (2020). *Business Statistics 4th Canadian Edition*, Pearson. <https://www.pearson.com/store/p/business-statistics-fourth-canadian-edition/P100002962598>

This textbook includes *MyLab Statistics*. *MyLab* is a learning platform that allows students to practice course material without limit. It will also help you identify topics you still need to work on and will create a personalized study plan. Furthermore, you are required to complete a series of online assignments in *MyLab*. You need an access code to register for *MyLab Statistics* for this course.

- Microsoft Excel/StatCrunch will be used to assist with the statistical calculations.
- A business/financial calculator (TI-BA II Plus is recommended).

DELIVERY MODE(S):

High-flex - Students have the option of attending lectures in the classroom or participating remotely via zoom. **Please note that exams require GPRC onsite attendance.** Students who choose to attend remotely must have a computer with a webcam and reliable internet.

COURSE OBJECTIVES:

This course provides students an introduction to business statistical methods and their applications. Four main topics will be covered in this course: displaying and describing both categorical and quantitative data with numerical and graphical summaries; linear regression; probability distribution theories and statistical inference, which deals with testing hypotheses and drawing conclusions from sample data using scientific methods. Students will learn how to use statistical software such as StatCrunch to conduct statistical analysis. This course will prepare students to apply statistical analysis to real-world decision-making problems.

LEARNING OUTCOMES:

Upon completion of this course students should be able to understand and explain:

- how to identify the context of data and distinguish different types of data
- different ways of selecting a representative sample
- how to use a bar or pie chart appropriately and how to analyze contingency tables
- how to display data in a histogram and in a stem-and-leaf diagram
- how to use a linear model to analyze the relationship between two variables
- probability distribution and statistical inference
- the difference between independent and disjoint events
- how to represent probabilities of multiple events using a probability tree
- how to model discrete random variables and continuous random variables
- the sampling distribution of a proportion and a mean
- how to calculate a confidence interval and perform a hypothesis testing for a proportion
- the relationship between hypothesis tests and confidence intervals
- how to calculate a confidence interval for the difference between two proportions
- how to perform a hypothesis test comparing two proportions
- how to construct a confidence interval and perform a hypothesis testing for a mean
- how to calculate a confidence interval for the difference between two means
- how to perform a homogeneity test and a goodness-of-fit test

TRANSFERABILITY:

Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at the Alberta Transfer Guide main page <http://www.transferalberta.ca>.

**** 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:

Assignments (<i>available on MyLab</i>)	20%
Term test 1 (<i>Friday, Oct 8</i>)	20%
Term test 2 (<i>Monday, Nov 8</i>)	20%
Final exam	40%

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

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

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:

<u>Week Beginning</u>	<u>Topic</u>	<u>Required Reading</u>
Aug 30	Zoom, D2L, MyLab, Data	Syllabus, Ch1, Ch2
Sep 6	<i>Labour Day - No Classes - Sep 6</i> Surveys and Sampling	Chapter 3
Sep 13	Categorical Data	Chapter 4
Sep 20	Quantitative Data	Chapter 5
Sep 27	Scatterplots, Association, and Correlation	Chapter 6
Oct 4	Linear Regression	Chapter 7
	<i>Term Test 1 - Friday, Oct 8</i>	
<i>Oct 11</i>	<i>Fall Break - No Classes - Oct 11-15</i>	
Oct 18	Randomness and Probability	Chapter 8
Oct 25	Random Variables and Probability Distribution	Chapter 9
Nov 1	Sampling Distributions	Chapter 10
Nov 8	<i>Term Test 2 - Monday, Nov 8</i> Confidence Intervals for Proportions	Chapter 11
Nov 15	Testing Hypotheses About Proportions	Chapter 12
Nov 22	Statistical Inference for Means	Chapter 13
Nov 29	Comparing Two Means	Chapter 14
Dec 6	Chi-Square Tests	Chapter 16
<i>Dec 11 - 20</i>	<i>Final Exam (TBA)</i>	

STUDENT RESPONSIBILITIES:

Attendance: Students are expected to attend all scheduled lectures, either in class or via Zoom, arrive on time, and remain for the duration of the activities. If you are attending class via Zoom, you must remain on camera for the entire duration of the lecture. Arriving late and leaving early is disruptive to the entire class. Frequent tardiness may be treated as an absence. **Students with absences in excess of 6 classes may be refused permission to write the final exam.** For more information, please refer to the Academic Regulations on Debarred from Exams at <https://www.gprc.ab.ca/programs/grading-systems.html>

Time Management: Adopting and adhering to effective learning habits in this course will likely take up a great deal of time so plan your schedule accordingly. It is difficult to catch up once a student falls behind in required readings and exercises.

Cell Phones: The use of cell phones during class time is unprofessional and distracting to the instructor and fellow students. Texting and talking on a cell phone during class is therefore strictly prohibited. Cell phones must be either turned off or set to silent mode and placed out of sight.

Email: Email is the preferred option to communicate with your instructor. **Email correspondence to your instructor must be sent from your GPRC student email account.** Emails should be professionally formatted and include a subject, correct spelling and grammar, and a reference to course material and/or textbook pages, etc. Emails that do not adhere to this format may not be responded to.

Recording: Photographing and/or recording course content is strictly prohibited unless advance permission is obtained from the instructor and any guest presenter(s). In the event permission is granted, such recordings may only be used for individual study, and may not be reproduced, transferred, distributed or displayed in any public manner.

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 Calendar at <http://www.gprc.ab.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at <https://www.gprc.ab.ca/about/administration/policies>

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

ASSIGNMENTS, QUIZZES AND EXAMS:

Students are expected to finish all assignments. Due dates of all assignments are available on *MyLab Statistics*. **Late/missed assignments are NOT accepted** and **will result in a grade of zero**. All exams will be written as scheduled. **No rewrite/rescheduled exams will be given**, and **all missed exams will result in a grade of zero** unless there is an excusable absence and prior arrangements have been made with the instructor. If there is a legitimate reason of absence, the weighting of the missed midterm exam will be added to the final exam weighting.

- Course materials (course outline, lecture notes, etc.) will be available on your *D2L* course space (<https://myclass.gprc.ab.ca/d2l/home>). Students are responsible for checking *D2L* regularly and downloading the lecture notes before each class.
- Assignments will be available on *MyLab Statistics*.

Assignments

- There will be 12 assignments throughout the semester. The best 10/12 will account for 20% of your final grade. Each assignment will be worth 2% of the student's final grade, regardless of the length of the assignment.
- The assignments will be marked immediately, and the student will receive their grade immediately.
- All assignments must be completed before the expiration of the pre-set due date or the student will receive a mark of zero for any missed assignments.

Exams

- **Term test 1** is scheduled for **October 8**.
- **Term test 2** is scheduled for **November 8**.
- **Final exam** is cumulative and will be scheduled by the registrar's office during December exam period.
- Students must come to college to write the three exams above.