DEPARTMENT OF SCIENCE

COURSE OUTLINE – Winter 2018

ST1510 E3, F3: Introduction to Applied Statistics I – 3 (3-0-2)

75 Hours for 15 weeks

INSTRUCTOR:	Dr. Shohreh Rahmati	**PHONE:**	780-539-2945
OFFICE:	J222	**E-MAIL:**	SRahmati@GPRC.ab.ca

OFFICE HOURS: TBA

CALENDAR DESCRIPTION: The course includes data collection and presentation, descriptive statistics. Probability distributions, sampling distributions, and the central limit theorem; point estimation and hypothesis testing; correlation and regression analysis; goodness of fit and contingency table.

PREREQUISITE(S)/COREQUISITE: Mathematics 30-1 or Mathematics 30-2 or equivalent.

REQUIRED TEXT/RESOURCE MATERIALS: Introductory Statistics by Prem S. Mann, Wiley

DELIVERY MODE(S):	Lecture:	**W, F**	**13:00-14:20**	**J201 (E3, F3)**
	Seminar:	**R**	**14:30-16:20**	**A307 (E3)**
		F	**14:30-16:20**	**A307 (F3)**

COURSE OBJECTIVES: This course provides an introduction to statistical methods and their applications. The main topics are: obtaining and summarizing data with graphs and numeric measures; probability theory; and statistical inference (drawing conclusions from sample data by carrying out a hypothesis test). This course also comes with a lab component; students will use EXCEL as a tool to further help their understanding in statistical analysis.

LEARNING OUTCOMES: To demonstrate the basic knowledge of descriptive statistics and its use. To perform elementary analysis of research data and to interpret the results of statistical tests. To demonstrate a conceptual knowledge of the concepts and principles involved. To select the appropriate statistical test. To be able to enter and analyze data using the computer program EXCEL.

TRANSFERABILITY:

Please check the Alberta Transfer Guide: 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 10%
- Lab reports 10%
- Midterm 27%
- Lab exam 15%
- Final Exam 38% (cumulative)

GRADING CRITERIA:

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:

Appendix A, Chapters 1-3 Sampling, Experiments, Graphs, Measures of Central Tendency and Spread

Chapters 4-7 Probability, Probability Distributions, Binominal, Normal, Sampling Distributions of $\bar{x}$ and $\hat{p}$

Chapter 8 Confidence Intervals

Chapter 9-12 Hypothesis Tests about the Mean, Proportion, Two Populations, Chi-square, ANOVA
Chapter 13 Linear Regression, Correlation, Inference about *B*

STUDENT RESPONSIBILITIES: Students are required to attend classes (lectures and labs). Assignments must be submitted on time. No late assignments will be accepted. If the midterm is missed due to a valid reason, its weight will be transferred to the final exam. If the final is missed due

to illness it will be deferred (see calendar for information). A doctor's note and a phone message or email will be required in both cases. **Cell phones are to be turned off and not used during class.**

STATEMENT ON PLAGIARISM AND CHEATING: 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 http://www.gprc.ab.ca/about/administration/policies/

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