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CURRICULUM GUIDE: OFFICIAL COURSE OUTLINE

Course Code	COMM 291	Course Title	Applications of Statistics in Business			
Credit Value	3	Department	Commerce			
No. of weeks	14	Hrs. per week	*Lecture*	*Tutorial*	*Laboratory*	*Total*
			3	0	0	3
Course Description	This course deals with the collection, presentation, analysis and interpretation of data in the business setting. It covers the two aspects of statistics namely: Descriptive Statistics and Inferential Statistics. Specifically, it covers the following: Steps in statistical investigation, the frequency distribution, measures of central location, measures of dispersion, concepts of probability, probability distribution, concept of hypothesis, hypothesis testing, simple linear regression and correlation analysis. The objective of this course is to provide an understanding of how statistics operates in business. Statistics is pervasive and its basic concepts have become essential to modern business practices. Students in this course will learn the basics of data analysis and the fundamental notion of statistical inference. The skills and learning in statistics in this course will also provide a foundation for the application of the basic techniques in a wide variety of domestic and global business circumstances and scenarios. Actual business cases and models will be used in the course so that students will learn and develop the skills which are very similar and being practiced in the business world.					
Prerequisite(s)	ENGL 088 (formerly EASL 089, ENGL 097)					
Initial Articulation Targets	*UBC*	*SFU*	*UVic*	*UNBC*	*TRU*	
	COMM 291 (3)	BUS 232 (3) - Q	STAT 252 (1.5)	MATH 240 (3)	ECON 2320 (3)	
	For updated information on the transferability of this course, please consult the BC Transfer Guide, www.bctransferguide.ca					

Learning Outcomes	Upon successful completion of this course, the student will be able to:
	• Introduction to Statistics
	  ○ Define and distinguish descriptive statistics from inferential statistics
	  ○ Identify the steps in statistical investigation
	  ○ Identify the sampling techniques
	  ○ Differentiate constant from variable
	• Frequency Distribution
	  ○ Construct a frequency distribution table from a given set of raw data
	  ○ Present the frequency distribution in graphical form
	• Measures of Central Tendency
	  ○ Distinguish between parameter and statistic.					

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	○ Solve the different measures of central tendency in an ungrouped and grouped set of data ○ Determine the advantages and disadvantages in using each of the measures of the central tendency • Measure of Variation (Dispersion) ○ Distinguish the measures of central tendency from measures of variation ○ Solve the different measures of variation ○ Determine the advantages and disadvantages in using each of the measures of variation ○ Use the measures of variation in statistical analysis • Measurement of Shape and Correlation ○ To compute for the skewness ○ To compute and measure correlation between variables • Principles of Counting ○ Apply the principles of counting in a given set of problem ○ Compute for the permutation and combination in a given set of data ○ Differentiate permutation from combination • Probability ○ Apply the concepts of probability in a given situation ○ Make a business decision in a given case study using the concepts of probability • Sampling Distribution ○ Explain the concept of probability distribution ○ Determine the areas Under a Normal Curve • Hypothesis Testing ○ Make a null hypothesis and alternative hypothesis in a given scenario or problem ○ Test a hypothesis. Determine whether or not sample data support hypothesis about the population/sample • Linear Regression and Correlation Analysis ○ Explain the principles of mathematical expression of relationship between two variables through the linear equation ○ Determine whether the relationship existing between the variables is a coincidence or real relationship

Content	**Core** topics – all of the following will be covered: • Types of data, graphical displays • Numerical summaries • Central tendency • Variation/deviation • Skewness • Probability • Normal distribution • Correlation and causation • Sampling distribution properties • Sampling distribution of means • Discrete distribution • Continuous distribution • Confidence intervals • Hypothesis testing • Z test and t test • Tests of significance • Types of error in hypothesis • Tests for one mean • Least-squares regression • Tests for two means • Tests for one and two proportions • Comparing means • Linear regression • Sampling design Additional topics may also be covered, at the discretion of the instructor.
Methods of Instruction	Lectures, discussions and assignments.
Required Textbook(s)	The following textbook(s) is/are required, or approved equivalent(s). Berenson, Mark, Levine, David, and Kathryn Szabat. Basic Business Statistics, Concepts, and Applications. 15th Edition. Prentice Hall 2024, ISBN-13: 9780138036140. Black, K. (2023). Business Statistics for Contemporary Decision Making. 11th ed. Wiley. Hardcover ISBN: 9781119905448 Groebner, Shannon & Fry (2023), Business Statistics: A Decision-Making Approach, 11/e. ISBN-13: 9780137835393 Lind, Douglas A., and Marchal, William G. Basic statistics for Business & Economics /Whitby, Ont. McGraw-Hill Ryerson, c2024. ISBN10: 1265056927 | ISBN13: 9781265056926

<table>
<tr><td></td><td colspan="3">McClave, Benson & Sincich (2018), Statistics for Business and Economics, 13/e, Pearson 888 pp ISBN-10: 0134506596 | ISBN-13: 9780134506593

Sharpe, De Veaux, Velleman & Wright (2018), Business Statistics, Third Canadian Edition, 3/e, Pearson Education Canada | Cloth; 1040 pp, ISBN-10: 0133899128 | ISBN-13: 9780133899122

Tiemann, Thomas K. Introductory business statistics with interactive spreadsheets, Victoria, B.C. BC Open Textbook Project, 2015.</td></tr>
<tr><td>Required Equipment and Technology</td><td colspan="3">Students are required to have a computer with internet access.
The following resources are provided by the College:
• Office 365
• Student email</td></tr>
<tr><td>Homework Hours</td><td colspan="3">At minimum, students can expect one hour of homework for every hour of instructional time.</td></tr>
<tr><td rowspan="6">Evaluation</td><td>Component</td><td colspan="2">% Value</td></tr>
<tr><td>In-class exercises and class participation</td><td colspan="2">5 - 10 %</td></tr>
<tr><td>Assignments</td><td colspan="2">10 - 20%</td></tr>
<tr><td>Quizzes</td><td colspan="2">15 - 25%</td></tr>
<tr><td>Midterm examination</td><td colspan="2">25 - 30%</td></tr>
<tr><td>Final examination</td><td colspan="2">30 - 35%</td></tr>
<tr><td>Completion Requirements</td><td colspan="3">The minimum grade to pass this course is D (50%). Unless otherwise stated, a minimum grade of C- (55%) is required for this course to fulfil a prerequisite.</td></tr>
<tr><td>Course Designer(s)</td><td>David Crawford, MBA, Sauder School of Business, University of British Columbia. SASC member, Alexander College</td><td>Consultant(s), if applicable</td><td></td></tr>
<tr><td>Dean’s Approval</td><td>Barbara Moon, Dean of Arts and Sciences, Alexander College</td><td>Dean’s Approval Date</td><td>September 27, 2006</td></tr>
<tr><td>Curriculum Committee Approval Date</td><td>September 27, 2006</td><td>First Term Offered</td><td>Spring 2007</td></tr>
<tr><td>Last Review Date</td><td>July 30, 2025</td><td>Next Review Date</td><td>July 30, 2030</td></tr>
<tr><td>Revision History</td><td colspan="3">April 1, 2019 – Revision by Enrico Tanafranca, Department Head (Commerce), Alexander College

July 30, 2025 - Minor revisions to content, textbooks and evaluation by Revision by Enrico Tanafranca, Department Head (Commerce), Alexander College</td></tr>
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