

Syllabus

COURSE: BU305D/ND Business Statistics
CREDIT: Semester Hours: 3 hours
SEMESTER: Spring 2025
TIME: January 13 to May 9, 2025, Monday and Friday, 8:00 to 9:20 am
LOCATION: Conference Room C
INSTRUCTOR: Dr. Teddy Bitner
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DESCRIPTION

This course is designed to acquaint students with major data-driven tools used in business analysis. Mathematical formulas will be demonstrated to help students in analysis of data management. Students should possess skills in algebra. Students will learn how to choose the correct tool(s) for their specific application(s). (Prerequisite: BU200)

This course is offered in two formats: in-person and online. Students registered for in-person attend the classes in person, online students attend the classes via the online classroom. For both in-person and online students, assignments and interaction outside of the class period are done in the learning management system.

OBJECTIVES

A. General competencies to be achieved. The student will:

1. Recognize that business is complex and requires effective management to succeed (PLO 1,4,5,6).
2. Evaluate complex business models to understand need for data skills (PLO 4,5,6).
3. Identify and interpret real problems to determine skills/tools needed for manual and computer calculations (PLO 4,5,6).
4. Reason the appropriate statistical method of converting data into information (PLO 4,5,6)
5. Prepare and interpret graphical representations of data (PLO 4,5,6).
6. Describe a number of data-driven tools (PLO 4,5,6).

B. Specific competencies to be achieved. The student will:

1. Understand an overview of statistical concepts (SLO 2,3).
2. Understand data collection, probability, and distribution of data (SLO 1-4).

3. Understand methods of estimation, hypothesis testing, and statistical analysis (SLO 1-5).
4. Understand the roles of operations, management, marketing and research use of data (SLO 1-4).
5. Practice statistical methods in individual projects (SLO 1-6).

REQUIREMENTS

- A. Read text, complete textbook assignments, and participate in forum activities.
- B. View videos, submit work and participate in discussions every week until the coursework is complete. Failure to participate at this frequency could result in a failing participation grade or withdrawal from the course.
- C. Complete course materials according to the prescribed schedule found in Canvas.
- D. Interact with the professor and students in response to discussion questions posted by the professor.
- E. Complete the final examination questions.

METHODS

- A. Lecture (recorded and available via Canvas for online students) and Discussion Questions. You will watch the lecture (online students) and answer discussion questions normally associated with each course lecture. You will comment on at least one classmate's post. Discussion questions are normally due to be completed within one week of posting.
- B. Homework and Canvas. Students will be assigned math-based homework to complete on dates listed for each assignment in Canvas. All homework and other assignments will be submitted through Canvas.
- C. Final Exam. The final exam will be posted on the course Canvas page, and you will be able to access and take the exams over a period of approximately one week.
- D. Attendance and Grading: Attendance accounts for 20% of your overall grade. I expect students to attend class regularly. My attendance policies are:

In class students: there are 16 class sessions in the cycle; each class session is worth 1.25% of your grade. I will deduct 1.25% from your grade for each unexcused absence.

For online students, I will take attendance once a week on Friday. Attendance is based on academic activity, which includes responding to discussion questions, submitting research papers, book reports or similar assignments, or taking an examination. I will deduct 2.50% from your grade for each week in which an online student fails to demonstrate academic activity

In computing the final grade, I will weigh the work of the course in the following proportions:

Assignments (in-class and homework)	55%
Discussion Questions	20%
Attendance	20%
Final Exam	15%

Special Notes:

- Students with disabilities have the responsibility of informing the Accommodations Support Coordinator (aso@calvary.edu) of any disabling condition that may require support.
- Plagiarism is defined as copying any content without identifying the source. This also includes taking another person's or AI entity's ideas or constructs and presenting them as your own. Plagiarism of any kind will not be tolerated. Most assignments at Calvary require the student to produce original work. Therefore, unless specifically permitted by the instructor, the use of AI-generated content is prohibited (even if cited) as it does not represent original work created by the student and is an unreliable aggregate of ideas from other sources. AI, however, may be utilized in cases where the instructor has explicitly permitted its use to accomplish specific tasks. It is only in these cases that AI-generated (or modified) content may be submitted by the student. If there are any questions as to the permissibility of AI use for an assignment, please ask your instructor for clarification.
- The Clark Academic Center (learning@calvary.edu) is dedicated to providing free academic assistance for Calvary University students. Student tutors aid with all facets of the writing process, tutor in various subject areas, prepare students for exams and facilitate tests. Please take advantage of this service.
- All class papers must follow the APA style according to the *Publication Manual of the American Psychological Association, 7th edition*.

MATERIALS

- A. The Bible is a required textbook in every course at Calvary University. To facilitate academic level study, students are required to use for assignments and research an English translation or version of the Bible based on formal equivalence (meaning that the translation is generally word-for-word from the original languages), including any of the following: New American Standard (NASB, English Standard Version (ESV), New King James (NKJV), or King James (KJV). Other translations and versions based on dynamic equivalence (paraphrases, and thought-for-thought translations like NLT and NIV) may be

used as supplemental sources. Please ask the professor if you have questions about a particular translation or version. The Holy Bible, www.gatewaybible.com, Price: \$0

- B. Anderson, Alan (2013). *Business Statistics for Dummies*. ISBN: 978-1118630693, list price \$16.39.
- C. Microsoft Excel. ASIN: B09H7GPR1G (ISBN not available), List price: \$149.99. NOTE: This listing reflects the one-time purchase price for Word and Excel home and student package on Amazon at the time this syllabus was prepared. Students who already possess Excel DO NOT NEED TO PURCHASE THIS PRODUCT.

TENATIVE CLASS SCHEDULE: Details are available in the Canvas portal for this class.

Module/Dates	Subject	Reading
Module 1 (January 13 & 17, 2025)	Course Introductions/Syllabus Review/Summarizing Categorical Data	Anderson Chapter 1
Module 2 (January 20 & 24, 2025)	Summarizing Quantitative Data	Anderson Chapter 2
Module 3 (January 27 & 31, 2025)	Organizing Categorical Data and Quantitative Data	Anderson Chapters 3&4
Module 4 (February 3 & 7, 2025)	Understanding Probability Basics	Anderson Chapter 5
Module 5 (February 10 & 14, 2025)	Measures of Relative Standing and Normal Distribution	Anderson Chapter 6
Module 6 (February 17 & 21, 2025)	The Binomial Distribution	Anderson Chapter 7
Module 7 (February 24 & 28, 2025)	The <i>t</i> -Distribution	Anderson Chapter 8
Module 8 (March 3 & 7, 2025)	Demystifying Sampling Distributions and the Central Limit Theorem	Anderson Chapter 9
Spring Break – March 10-14, 2025		
Module 9 (March 17 & 21, 2025)	Making Sense of Margin of Error	Anderson Chapter 10
Module 10 (March 24 & 28, 2025)	Calculating Confidence Intervals	Anderson Chapter 11

Module 11 (March 31 & April 4, 2025)	Deciphering Your Confidence Interval	Anderson Chapter 12
Module 12 (April 7 & 11, 2025)	Testing Hypotheses	Anderson Chapter 13
Module 13 (April 14 & 18, 2025)	Taking the Guesswork out of p- values and Type I and II Errors	Anderson Chapter 14
Module 14 (April 21 & 25, 2025)	Examining Polls and Surveys	Anderson Chapter 15
Module 15 (April 28 & May 2, 2025)	Evaluating Experiments	Anderson Chapter 16
Module 16 (May 5 & 9, 2025)	Looking for Links in Categorical and Quantitative Data	Anderson Chapters 17 & 18

Rubric for Assignments				
	Above Standards = 3	Meets Standards = 2	Approaches Standards = 1	Fails to Meet Standards = 0
Knowledge	Recalls details of previously learned material, including relevant facts and theories. Student is able to articulate and reflect on the details in written form effectively.	Recalls details of previously learned material, including relevant facts and theories. Student is able to describe the details in written form.	Recalls the general outline of previously learned material, including relevant facts and theories. Student is able to describe the general outline in written form.	Fails to recall the general outline of previously learned material, including relevant facts and theories. Student is unable to describe the general outline in written form.
Comprehension	Answers are relevant to questions. Grasps the meaning of previously learned material. Correctly explains, interprets, and summarizes as appropriate.	Answers are mostly relevant to questions. Exhibits the ability to grasp the meaning of previously learned material. Displays the ability to explain, interpret, and summarize as appropriate.	Answers generally relate to questions. Exhibits marginal grasp of the meaning of previously learned material. Struggles with the ability to explain, interpret, and summarize as appropriate.	Answers do not correlate with questions. Exhibits no grasp of the meaning of previously learned material. Fails to display the ability to explain, interpret, and summarize as appropriate.
Application	Applies rules, methods, concepts, principles, and laws as required by questions.	Generally, applies rules, methods, concepts, principles, and laws as required by questions.	Demonstrates comprehension of rules, methods, concepts, principles, and laws present in the material, struggles with finding and articulating appropriate applications.	Demonstrates a failure to comprehend rules, methods, concepts, principles, and laws present in the material. Fails to articulate applications with finding and articulating appropriate applications. Fails to understand the idea of application.
Analysis	Dissects and differentiates constituent parts of a concept, theory, or idea and relate those parts to the whole. Evidences strong critical thinking skills with logical and thoughtful development of analytical conclusions.	Identifies and describes parts of a concept, theory, or idea and relate those parts to the whole. Evidences good critical thinking skills with reasonably developed analytical conclusions.	Identifies most parts of a concept, theory, or idea and relate those parts to the whole. Evidences basic critical thinking skills with marginally developed analytical conclusions.	Fails to identify parts of a concept, theory, or idea and relate those parts to the whole. Demonstrates the lack of basic critical thinking skills with poorly developed analytical conclusions.
Synthesis	Masters the whole of a concept, theory, or idea by means of its constituent parts. Artifacts are sophisticatedly and cohesively synthesized to undergird the central argument. Able to articulate the results of synthesis effectively.	Sees the whole of a concept, theory, or idea by means of its constituent parts. Artifacts are cohesively synthesized to undergird the central argument. Able to articulate the results of synthesis effectively.	Approaches the whole of a concept, theory, or idea by means of its constituent parts. Artifacts are marginally synthesized to undergird the central argument. Able to articulate the results of synthesis.	Fails to comprehend the whole of a concept, theory, or idea by means of its constituent parts. Fails to synthesize artifacts to undergird the central argument. Unable to articulate the results of synthesis.
Evaluation	Assesses and critiques theories, thoughts, ideas, concepts, proposals, literary works, or other	Describes and articulates theories, thoughts, ideas, concepts, proposals, literary works, or other	Approaches and recites theories, thoughts, ideas, concepts, proposals, literary works, or other	Fails to comprehend theories, thoughts, ideas, concepts, proposals, literary works, or other

Rubric for Assignments				
	Above Standards = 3	Meets Standards = 2	Approaches Standards = 1	Fails to Meet Standards = 0
	forms of creative expression. Masters the data, synthesizes theory and outcomes, and draws insightful conclusions based on the evidence.	forms of creative expression. Comprehends the data, synthesizes theory and outcomes, and draws appropriate conclusions based on the evidence.	forms of creative expression. Recognizes the data, considers the theory and outcomes, and draws some conclusions based on the evidence.	forms of creative expression. Fails to consider the data, unable to apply or synthesize the theory and outcomes, and fails to draw conclusions based on the evidence.
Citations and Plagiarism	Refers to right sort and numbers of Scriptures and/or outside references with proper form, careful and full presentation and adequate, informative content. All direct quotes are cited, all paraphrased material is cited, evidence of frequent and accurate citations throughout the paper. All source material appears in the Bibliography / References.	Refers to right sort and numbers of Scriptures and/or outside references with proper form, careful and full presentation and adequate, informative content. All direct quotes are cited, paraphrased material generally is cited, with adequate frequency. All source material appears in the Bibliography / References	Refers to right sort and numbers of Scriptures and/or outside references with proper form, careful and full presentation and adequate, informative content. All direct quotes are cited, paraphrased material generally is marginally cited, student shows evidence of struggling with paraphrasing. Most source material appears in the Bibliography / References	The student fails to cite direct sources (cut and paste from Wikipedia or other sources). Student fails to properly paraphrase and cite material. Student does not list source material in the Bibliography / References, or the paper completely lacks a Bibliography / References.
Spelling / Grammar / Syntax	Writes clearly, follows the accepted norms of spelling, grammar, and syntax with no errors	Generally writes clearly and follows the accepted norms of spelling, grammar, and syntax with minor errors.	Does not write clearly, exhibits several spelling, syntax, and grammar errors	Does not write clearly, fails to follow spelling, grammar, and syntax guidelines and acceptable use.
Format Style (Turabian, APA, MLA)	The assignment has been submitted neatly and according to relevant submission guidelines per Turabian, APA, or MLA.	The assignment follows nearly all of the relevant submission guidelines per Turabian, APA, or MLA.	The assignment displays evidence of formatting challenges, but generally follows the relevant submission guidelines per Turabian, APA, or MLA.	The assignment displays evidence of formatting challenges and fails to follow the relevant submission guidelines per Turabian, APA, or MLA.
Academic Level Satisfied	Content / answers are insightful, original, scholarly, developed with exceptional detail, and appropriate to degree level.	Content / answers are appropriate, original, scholarly, developed with adequate detail, and appropriate to degree level.	Content / answers approach original scholarship, developed with some detail, and appropriate to degree level.	Content / answers do not display original scholarship, adequate detail, or appropriate to degree level.

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