

CSU-Pueblo Hasan School of Business
BUSAD 360 Advanced Statistics
W 1:00-2:15 in HSB 111

Instructor: Justin O. Holman, Ph.D.

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Office: HSB 253; **Hours:** MW 12:15-1:00, 2:15-3:00; or by appointment

Course Description: This class will explore advanced techniques in business statistics with a focus on exploratory data visualization, applied multiple regression, and Monte Carlo simulation. Students will learn to analyze data and build models and simulations in a spreadsheet environment using Microsoft Excel.

Instructional Methods: *Hybrid*. Traditional in-person once per week with online content.

Course Objectives/Student Learning Outcomes (SLOs): Students will learn to utilize Spreadsheets to mine large data sets, identify correlations, build regression models, simulate stochastic processes and produce useful data visualizations.

Course Philosophy: This course emphasizes mastering select key ideas through repeated practice and problem solving rather than memorizing formulas. The goal is to develop practical skills you can continue using long after the course ends.

Prerequisites: BUSAD 265 or equivalent **Credit hours:** 3

Materials:

- No Textbook Required.
- Pen or pencil and paper are required every class.
- Calculators are recommended. Basic calculators are provided during exams.

Course Requirements and Grading:

- **Your final course grade is based on 3 exams, each worth 33 ⅓%.**
- Final letter grades are based on your exam average:
 - A >90, B >80, C >70, D >60, F <60. No, I won't "round up" to improve a grade.
- Exam Absence Policy*
 - No individual make-up exams will be given during the semester.
 - One **All-Purpose Make-up Exam (APME)** will be offered during Finals Week.
 - The APME may replace **exactly one** missed regular exam.
 - If you complete all 3 regular exams on schedule, taking the APME is optional and can only improve your exam average.
 - Students who miss more than one regular exam cannot replace both missed exams through the APME.

** This policy is intended to provide a fair, consistent process for handling official University activities, illness, emergencies, and other excused absences while eliminating the need for individual make-up exams since the testing center has closed. Students who know in advance that they will miss **more than one** regular exam should carefully consider whether this course is compatible with their schedule.*

Classroom Etiquette: Professional behavior is expected at all times. Disruptive behavior in the classroom will not be tolerated. Anyone causing a disturbance will be asked to leave. Multiple infractions will result in referral to the Office of Student Judicial Affairs or similar.

Accommodations: If you have a documented disability that may impact your work in this class and for which you may require accommodations, please see the Disability Resources as soon as possible to arrange services. Disability Resources is located in OSC 104, and can be reached by phone (719-549-2648) and email (dro@csupueblo.edu).

University Policies: All University Policies that the Provost Office wants faculty to include on their syllabi are contained here: [Syllabus Reference Sheet](#) and [Syllabus Template](#).

Class Schedule and Exam Dates (subject to change):

<u>Week</u>	<u>Topics</u>
1	Introduction, Syllabus, Excel, DataCamp
2	Pivot tables, Histograms, Scatterplots
3	Correlation, Linear Regression
4	Curve-fitting, Time Series
5	Exam 1 (23 Sep)
6	Multiple Regression
7	Variable selection
8	Interaction Variables and Multicollinearity
9	Dummy Variables and ANOVA
10	Residual Analysis and Forecast Error
11	Exam 2 (26 Oct)
12	Intro to Random Numbers and Simulation
13	Discrete Simulation with Dice Games
14	<i>Thanksgiving</i>
15	Continuous Simulation for Financial Planning
16	Exam 3 (7 Dec)
17	Finals Week (APME)