Marketing and Business Analytics
A&M-COMMERCE

BUSA 547: Data Visualization

Fall 2024

Instructor: Dr. Syed A. Raza

Email Address: syed.raza@tamuc.edu

Office Location: 2065, Dallas Campus

Class Location: TBA, Dallas Campus

Class Timing: 6:15- 8:55 PM, Wednesdays

Course Duration: August 26, 2024 –December 13, 2024

Office Hours: Mondays, 6:20- 8:20 PM, Room 2065 (or by appointment)

Virtual Office Hours: Thursdays, 8:30-11:30 AM (Zoom link will be posted on D2L)

COURSE INFORMATION

There is <u>no mandatory textbook</u> for this course. All the material will be provided through lectures and tutorials.

Recommended Textbooks

Storytelling with Data: A Data Visualization Guide for Business Professionals by Cole Nussbaumer Knaflic (ISBN-13: 978-1119002253; ISBN-10: 1119002257)

Visual Analytics with Tableau by Alexander Loth (ISBN-13: 978-1119560203
ISBN-10: 1119560209)

COURSE DESCRIPTION

In this digital age, it is becoming essentials for people to understand how to leverage data and generate insights that have the power to change the world. Data Analysis, visualization and storytelling are indispensable skills for communications, engineering, managing and marketing professionals. Student will learn the fundamentals of data visualizations, cleaning and analyzing datasets using Tableau.

COURSE OBJECTIVES

By the end of this course, students will be able to:
- Detect stories within data by extracting insights using analytics and visualizations.
- Present data and insights visually to enhance audience comprehension of findings and results.
- Apply best data visualization practices to their work by choosing the right visualization parameters and techniques.
- Develop static visualizations, interactive Dashboards and data stories using Tableau.

- Be an effective data-driven visual storyteller by communicating insights about data in various formats, including oral presentations, written reports and interactive visualizations.

COB SLO-Course Objective Alignment

COB STUDENT COURSE OUTCOMES - AFTER SUCCESSFULLY COMPLETING THIS COURSE, STUDENTS WILL BE (SLOS)	MEASUREMENT METHODS LEARNING OUTCOMES (OUTCOME ASSESSMENTS) ABLE TO:	
1, 2, 5	- Identify and describe complex business problems in terms of analytical models - Understand and apply statistical concepts and methods of business analytics - Develop models in excel and other analytical tools for various decision-making problems - Interpret results/solutions and identify appropriate courses of action for a given problem - Communicate technical information in the form of visualizations and detailed reports.	- Dashboard and Data story Presentations Assignments

GRADING

Final Grade

At the end of this semester, if your total is between 90 and 100, you will get an A; if it's between 80 and 89, you will get a B, and so on. Please note that the actual points will be used to calculate your final grade. No curving will be used in this class.

Tasks	% of the final grade
Exams/Quizzes	25
Assignments	25
LinkedIn Learning	25
Project	25

Points	Grade
90-100	A
80-89	B
70-79	C
60-69	D
Below 60	F

TECHNOLOGY REQUIREMENTS

You will need to use Tableau and Microsoft office tools. A 1-year student license for Tableau will be provided.

COMMUNICATION AND SUPPORT

If you ask me questions by emails, I will reply within 48 hours. However, I usually answer them much faster.

If you have questions about software operations, please make sure to include the screenshots of the issues in the emails.

All assignment due dates, deadlines, and exam time are central time in the United States.

COURSE AND UNIVERSITY POLICIES

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Gee Library- Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See Code of Student Conduct from Student Guide Handbook).

Campus Concealed Carry

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those

who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

STATEMENT ON AI USE IN COURSES [MAY 2023]:

Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

TENTATIVE COURSE OUTLINE

This is a tentative list of topics these may change, and their order may be subject to change. The students are therefore advised to visit the D2L course page for details. Assessments due dates and requirements will be posted on D2L

Week	Topics	Tasks (Tentative)
1	Statistic Review	
2	Data Modeling Fundamentals	
3	Data sources	**Assignment 1**
4	Data wrangling	
5	Principals of Visualization	
6	Choosing right visualization	**Exam 1**
7	Introduction to Tableau	
8	Exploratory Data Analysis	
9	Advanced Data Analysis	**Assignment 2**
10	Advanced Data Analysis in excel	
11	Advanced Data Analysis in Tableau	
12	Introduction to Power BI	**Exam 2**
13	Data Visualization in Power BI	
14	Data Storytelling Fundamentals	**Assignment 3**
15	Dashboard/ Data Story Design	
16	Revision/ Presentations/ Discussions	**Project Due**