

# BUSA547: Data Visualization

## Fall 2025

Instructor: Dr. Syed A Raza

Email Address: [syed.raza@tamuc.edu](mailto:syed.raza@tamuc.edu)

Office Location: 2065, Dallas Campus

Class Location: 839, Dallas Campus

Class Timing: 6:15 – 8:55 PM Wednesdays

Course Duration: August 25, 2025- December 12, 2025

Office Hours: Thursdays, 11:00- 1:00 PM Room 2065 (or 2064)

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

### COURSE INFORMATION

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

#### Recommended Textbooks

1. Nussbaumer Knaflic, Cole. **Storytelling with Data: A Data Visualization Guide for Business Professionals**. 1st ed., Wiley, 2015, <https://doi.org/10.1002/9781119055259>.

Library link:

[https://tamuc.primo.exlibrisgroup.com/permalink/01TEXAM\\_COM/1fh34bj/cdi\\_askewsholts\\_vle\\_books\\_9781119002062](https://tamuc.primo.exlibrisgroup.com/permalink/01TEXAM_COM/1fh34bj/cdi_askewsholts_vle_books_9781119002062)

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

Library link:

[https://tamuc.primo.exlibrisgroup.com/permalink/01TEXAM\\_COM/7i396/alma991006521991006041](https://tamuc.primo.exlibrisgroup.com/permalink/01TEXAM_COM/7i396/alma991006521991006041)

3. Aspin, Adam. **Pro DAX and Data Modeling in Power BI: Creating the Perfect Semantic Layer to Drive Your Dashboard Analytics**. 1st ed. 2023., Apress, 2023, <https://doi.org/10.1007/978-1-4842-8995-2>.

Library Link:

[https://tamuc.primo.exlibrisgroup.com/permalink/01TEXAM\\_COM/7i396/alma991006748169806041](https://tamuc.primo.exlibrisgroup.com/permalink/01TEXAM_COM/7i396/alma991006748169806041)

4. Nussbaumer Knaflic, Cole. **Storytelling with Data: Let's Practice**. 1st ed., Wiley, 2020.

Library Link:

[https://tamuc.primo.exlibrisgroup.com/permalink/01TEXAM\\_COM/1fh34bj/cdi\\_skillsoft\\_books24x7\\_bks000151000](https://tamuc.primo.exlibrisgroup.com/permalink/01TEXAM_COM/1fh34bj/cdi_skillsoft_books24x7_bks000151000)

### 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.

## COBSLO Course Objective Alignment

COB STUDENT COURSE OUTCOMES - AFTER SUCCESSFULLY MEASUREMENT METHODS LEARNING OUTCOMES  
COMPLETING THIS COURSE, STUDENTS WILL BE (OUTCOME ASSESSMENTS)

(SLOS)	ABLE TO:
1, 2, 5	<ul style="list-style-type: none"><li>• Identify and describe complex business problems in terms of analytical models</li><li>• Understand and apply statistical concepts and methods of business analytics</li><li>• Develop models in excel and other analytical tools for various decision-making problems</li><li>• Interpret results/solutions and identify appropriate courses of action for a given problem</li><li>• Communicate technical information in the form of visualizations and detailed reports.</li></ul> <ul style="list-style-type: none"><li>• Dashboard and Data story Presentations Assignments</li></ul>

## GRADING

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.

### Assessment Criteria

Tasks	% of the final grade
Exams/Quizzes	30
Assignments	40
Project	30

## Grading Policy

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 such as Power BI, and Excel . 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](mailto: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

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 may change, and their order may be subject to modification also. 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/ Primer	
2	Data sources, Data Wangling, Principals of Visualization	
3	Excel Dashboarding and Modeling	
4	Introduction to Tableau	
5	Data Visualization with Tableau	Assignment 1
6	Data Storytelling and Dashboarding with Tableau	
7	Advanced Analytics with Tableau	Exam 1
8	Forecasting, Clustering, Tooltip analytics using Tableau	
9	Case Study (Tableau)	Assignment 2
10	Introduction to Power BI	
11	Data Visualization with Power BI	
12	Advanced Analytics (DAX, Filter, Measures, Others) with Power BI	Exam 2
13	Case Study (Power BI)	
14	Group Presentations	
15	Group Presentations	Project Due