



Course Syllabus: Data Visualization

Dillard College of Business Administration

MIS 3423, Section 201 and Z20

Spring 2026

TR 11:00 am-12:20 pm

DB 306

Contact Information

Instructor: Dr. Grace Zhang

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Office hours: MW 10:30 am -12:30 pm, TR 10:30 am -11:00 am, or by appointments

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Course Description

This course provides an in-depth look at data visualization, blending theory and practice. Students will learn design fundamentals and how to use quantitative data to improve decision-making. The course includes lectures, real-world examples, and hands-on software experience.

Course Learning Goals

Course General Learning Goals:

- Our students will be effective at problem solving and decision making. Lab exercises and chapter assignments from the textbook will be assigned. These assessments require students to utilize technology to gather relevant formation and practice related data analysis with visualization. These graded assessments are a portion of the overall course grade.
- Our students will be technologically prepared. Extensive use of technology is throughout the course. Data visualization technology (EXCEL, Power BI, Tableau) will be the primary coverage. Students will also demonstrate their ability to use typical business computer applications by utilizing Microsoft applications.

These general learning goals are among those established by the Dillard College of Business Administration. General learning goals represent the skills that graduates will carry with them into their careers. While assessing student performance in obtaining these general learning goals, Dillard College is assessing its programs. The assessments will assist us as we improve our curriculum and curriculum delivery.

Course Specific Learning Goals:

- Describe how the various business functions use business analytics and visualizations.
- Identify the components of the SOAR analytics model.
- Describe the use of exploratory data visualizations and explanatory data visualizations.
- Identify common tools used to prepare data for analysis and visualization.
- Describe the five types of business analytics: descriptive, diagnostic, predictive, prescriptive, and adaptive/autonomous analytics.
- Describe appropriate visualizations for exploratory business analytics.
- Describe appropriate visualizations for confirmatory business analytics.
- Explain dashboards and their benefits.
- Explain how marketing analytics reports results visually.
- Explain how accounting analytics reports results visually.
- Identify methods of reporting financial analytics results visually.
- Explain how to report the results of operations analytics visually.
- Describe data-drive organizations and the future of business analytics.

Textbook & Instructional Materials

- [Introduction to Business Analytics](#), By Vernon Richardson and Marcia Watson, McGraw Hill. This is a REQUIRED textbook.
- [Microsoft Power BI Desktop](#). It is free software for Windows PC, and you need to use your Microsoft 365 account to sign in. The software is available in Dillard labs.
- Tableau Desktop. Student can get a one-year [free license of Tableau Desktop](#) using student .edu email account. The software is available in Dillard labs.
- Approved Zoom students can access the class via [Zoom](#). Please present yourself professionally through webcam and microphone during the class sessions for questions and answers. In addition, make sure you have the correct software set up on your own device to use EXCEL, Power BI, and Tableau.

Tutoring Assistance

There is a BAIS/MIS tutor to assist this course in DB 206. Please see the tutor for the assistance time schedule.

Student Handbook

Refer to: [Student Handbook](#)

Academic Misconduct Policy & Procedures

Academic Dishonesty: Cheating, collusion, and plagiarism (the act of using source material of other people, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not the individuals to whom credit is given). Additional guidelines on procedures in these matters may be found in the Office of Student Conduct. Refer to: [Office of Student Conduct](#) .

Moffett Library

Moffett Library provides resources and services to support student's studies and assignments, including books, peer-reviewed journals, databases, and multimedia materials accessible both on campus and remotely. The library offers media equipment checkout, reservable study rooms, and research assistance from librarians to help students effectively find, evaluate, and use information. Get started on this [Moffett Library webpage](#) to explore these resources and learn how to best utilize the library.

Grading

Students' performance will be assessed using the following activities.

Table 1: Points allocated to each activity

| Activity | Points |
|-------------------------------|--------|
| Exams | 40 |
| Lab Exercises and Project | 40 |
| External Learning Assignments | 10 |
| Attendance and Participation | 10 |
| Total Points | 100 |

Table 2: Total points for final grade.

| Grade | Points |
|-------|--------------|
| A | 90 |
| B | 80 to 89 |
| C | 70 to 79 |
| D | 60 to 69 |
| F | Less than 60 |

Exams

There are three exams. D2L Exams cover assigned chapters, lab exercises, external online learning units, and chapter projects. Students are responsible for all posted materials, even if it is not directly discussed in class.

Lab Exercises and Project

There are multiple lab exercises for each chapter. These exercises include the use of EXCEL, Power BI, and Tableau to implement the steps in SOAR model. Please make sure you have access to the required software during the lab exercises sessions.

Chapter 12 has a final project to require students to utilize a real-world dataset, provide visualizations based on SOAR model, and make recommendations to facilitate decision making.

External Learning Assignments

There are a few external learning assignments. Please sign up a FREE account at [Microsoft Learn](#) and [Data Camp](#) websites. The FREE learning assignments links are provided in D2L. These are external learning tutorials to enhance your ability of using the software, so pace yourself and work on the tutorials throughout the semester.

Attendance and Participation

This course follows the university policies regarding attendance. Students are expected to attend all meetings of the classes in which they are enrolled.

Instructor's records of class attendance stand as evidence of absences. Absences will be excused only for approved school trips or severe health issues. A student with excessive absences may be dropped from a course by the instructor. If Zoom attendance is requested and approved by the instructor, make sure that video camera and microphone work, and the student needs to be presented professionally throughout the meeting.

Class participation in all formats (questions, answers, comments, and feedback) is highly encouraged to achieve a good participation grade.

Late or Missing Work

Ample time window will be provided to finish class activities and submit assignments. Written verification is mandatory for late or missing work. The instructor must be contacted by the day of the scheduled activity, or NO makeup will be allowed. A deduction may be assessed for a late exam or assignment at the instructor's discretion.

Important Dates

- Last day for term schedule changes: January 23, 2026
- Deadline to file for graduation: February 16, 2026
- Last Day to drop with a grade of "W:" April 29, 2026
- Refer to: [Drops, Withdrawals & Void](#)

Desire-to-Learn (D2L)

Extensive use of the MSU D2L program is a part of this course. Each student is expected to be familiar with this program as it provides a primary source of communication regarding assignments, examination materials, and general course information. You can log into [D2L](#) through the MSU Homepage. If you experience difficulties, please contact the technicians listed for the program or contact your instructor.

Online Computer Requirements

Taking an online class requires you to have access to a computer (with Internet access) to complete and upload your assignments. It is your responsibility to have (or have access to) a

working computer in this class. ****Assignments and tests are due by the due date, and personal computer technical difficulties will not be considered as a reason for the instructor to allow students extra time to submit assignments, tests, or discussion postings.*** Computers are available on campus in various areas of the buildings as well as the Academic Success Center. ****Your computer being down is not an excuse for missing a deadline!!*** There are many places to access your class! Our online classes can be accessed from any computer in the world which is connected to the internet. Contact your instructor immediately after having computer trouble. If you have technical difficulties in the course, there is also a student help desk available to you. The college cannot work directly on student computers due to both liability and resource limitations; however, they are able to help you get connected to our online services. For help, log into [D2L](#).

Change of Schedule

A student dropping a course (but not withdrawing from the University) within the first twelve class days of a regular semester or the first four class days of a summer semester is eligible for a 100% refund of applicable tuition and fees. Dates are published in the Schedule of Classes each semester.

Refund and Repayment Policy

A student who withdraws or is administratively withdrawn from Midwestern State University (MSU) may be eligible to receive a refund for all or a portion of the tuition, fees and room/board charges that were paid to MSU for the semester. HOWEVER, if the student received financial aid (federal/state/institutional grants, loans, and/or scholarships), all or a portion of the refund may be returned to the financial aid programs. As described below, two formulas (federal and state) exist in determining the amount of the refund. (Examples of each refund calculation will be made available upon request).

Services for Students with Disabilities

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable accommodations to ensure equal opportunity for qualified persons with disabilities to participate in all educational, social, and recreational programs and activities. After notification of acceptance, students requiring accommodations should make application for such assistance through Disability Support Services, located in the Student Wellness Center, (940) 397-4140. Current documentation about disability will be required to provide appropriate services, and each request will be individually reviewed. For more details, please go to [Disability Support Services](#).

College Policies

Smoking/Tobacco Policy

College policy prohibits the use of tobacco products in any building owned or operated by WATC. Adult students may smoke only in the outside designated-smoking areas at each location.

Alcohol and Drug Policy

To comply with the Drug Free Schools and Communities Act of 1989 and subsequent amendments, students and employees of Midwestern State are informed that strictly enforced policies are in place which prohibits the unlawful possession, use or distribution of any illicit drugs, including alcohol, on university property or as part of any university-sponsored activity. Students and employees are also subject to all applicable legal sanctions under local, state, and federal law for any offenses involving illicit drugs on university property or at university-sponsored activities.

Campus Carry

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes has prohibited. The new Constitutional Carry law does not change this process. Concealed carry still requires a License to Carry permit, and openly carrying handguns is not allowed on college campuses. For more information, visit [Campus Carry](#).

Active Shooter

The safety and security of our campus is the responsibility of everyone in our community. Each of us has an obligation to be prepared to appropriately respond to threats to our campus, such as an active aggressor. Please review the information provided by MSU Police Department regarding the options and strategies we can all use to stay safe during difficult situations. For more information, visit [MSUReady – Active Shooter](#). Students are encouraged to watch the video entitled “Run. Hide. Fight.” which may be electronically accessed via the University police department’s webpage: ["Run. Hide. Fight."](#)

Grade Appeal Process

Students who wish to appeal a grade should consult the Midwestern State University [MSU Catalog](#).

Course Schedule

***Notice:** Changes in the course syllabus, procedure, assignments, and schedule may be made at the discretion of the instructor.

| Date | Chapter | In Class Topic | Assignments Due |
|--------|---------|-----------------------|-----------------|
| 20-Jan | Intro | Course Introduction | Software Setup |
| 22-Jan | 1 | Specify the Question | |
| 27-Jan | 1 | Visualization Lab | Chapter 1 Lab |
| 29-Jan | 2 | Obtain the Data | |
| 3-Feb | 2 | Visualization Lab | Chapter 2 Lab |
| 5-Feb | 3 | Analyze the Data | |
| 10-Feb | 3 | Visualization Lab | Chapter 3 Lab |
| 12-Feb | 4 | Analyze the Data | |
| 17-Feb | 4 | Visualization Lab | Chapter 4 Lab |
| 19-Feb | Exam | Exam 1 Chapters 1 - 4 | DataCamp 1 |

| Date | Chapter | In Class Topic | Assignments Due |
|------------|---------|------------------------|--------------------|
| 24-Feb | 5 | Analyze the Data | |
| 26-Feb | 5 | Visualization Lab | Chapter 5 Lab |
| 3-Mar | 6 | Report the Results | |
| 5-Mar | 6 | Visualization Lab | Chapter 6 Lab 1 |
| 10, 12-Mar | | No Class, Spring Break | |
| 17-Mar | 6 | Visualization Lab | |
| 19-Mar | 6 | Visualization Lab | Chapter 6 Lab 2 |
| 24-Mar | 7 | Marketing Analytics | |
| 26-Mar | 7 | Visualization Lab | Chapter 7 Lab |
| 31-Mar | 8 | Accounting Analytics | |
| 2-Apr | | No Class, Holiday | |
| 7-Apr | 8 | Visualization Lab | Chapter 8 Lab |
| 9-Apr | Exam | Exam 2 Chapters 5 - 8 | DataCamp 2 |
| 14-Apr | 9 | Financial Analytics | |
| 16-Apr | 9 | Visualization Lab | Chapter 9 Lab |
| 21-Apr | 10 | Operations Analytics | |
| 23-Apr | 10 | Visualization Lab | Chapter 10 Lab |
| 28-Apr | 11 | Advanced Analytics | |
| 30-Apr | 11 | Visualization Lab | Chapter 11 Lab |
| 5-May | 12 | SOAR capstone | |
| 7-May | 12 | SOAR capstone | Chapter 12 Project |
| 12-May | Exam | Exam 3 Chapters 9 - 12 | MS Learn |