Course Syllabus: Introduction to Business Analytics

Dillard College of Business Administration
MIS 5113, Section Y20
Spring 2026
M 5:30 pm – 6:50 pm
DB 306

Contact Information

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Course Description

This course provides an overview of the business analytics ecosystem with introductions to three types of analytics: descriptive, predictive, and prescriptive. Applications and tools of business analytics are the focus. In addition, data foundations, as well as big data concepts, are also discussed.

Course Learning Goals

Course General Learning Goals:

- Our students will exhibit the characteristics of leadership. The class has group projects requiring students to evaluate each team member based on the DCOBA common rubric. The leadership rubric includes participation, teamwork, organization skills, character, and communication items.
- Our students will produce creative responses to business situations. The group projects require students to apply descriptive, predictive, and prescriptive analytics to case studies. Various class activities will also require students to respond to business situations.
- Our students will communicate at a professional level. The class assignments and group projects require students to write and communicate at a professional level.

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 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:

- Understand the distinct types of analytics and review selected applications
- Learn about descriptive and inferential statistics
- Understand the importance of data/information visualization
- Learn the standardized data mining processes
- Learn different methods and algorithms of data mining for predictive analytics
- Understand different methods and algorithms of machine learning for predictive analytics
- Become familiar with distinct types of deep learning methods for predictive or cognitive analytics
- Know the process of text mining for business analytics
- Understand the applications of prescriptive analytics techniques using optimization and simulation
- Become familiar with the wide range of enabling technologies for Big Data analytics
- Learn and practice the basic syntax of SQL SELECT statements and subqueries, joins, and aggregate functions.

Textbook & Instructional Materials

- Analytics, Data Science, & Artificial Intelligence: Systems for Decision Support, 11th edition, by Ramesh Sharda, Dursun Delen, Efraim Turban. Pearson Publishing. ISBN-13: 9780135755532. Pearson+ subscription is highly recommended for digital features of the textbook.
- Altair AI Studio (formerly RapidMiner Studio) is required for hands-on assignments. It can be downloaded with a one-year educational license for free. Please use your .edu email address to sign up. Please make sure you have a proper device to work with the software. Note that Chromebook will NOT be able to accommodate this software.
- We also use Microsoft EXCEL, EXCEL Add-ins, Codecademy Learn SQL unit, and various tutorials on SQL Zoo. Dillard computer labs have access to all the software needed.

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
Exam (3)	40
Altair AI Studio Online Learning	25
EXCEL and SQL Learning	10
Group Projects	20
Attendance and Participation	05
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.

Assignments

Altair AI Studio assignments are required on a weekly basis. Students are responsible for completing the assigned introduction videos and working through the corresponding hands-on learning demonstrations using Altair AI Studio. In addition, students must complete an Altair AI Studio certification assessment at the end of the semester. All students are required to create an account on the Altair Learning Academy. It can help to track progress and completion of course-required activities.

EXCEL and SQL hands on learning: There are EXCEL assignments and SQL online learning assignments. For SQL, one is to finish the Codecademy "Learn SQL" unit, and the other two are the learning tutorial sessions from SQL Zoo.

Projects

Students work in groups to apply business analytics to three group projects. Students are required to explore options for data analysis, model building, and evaluation in terms of descriptive, predictive, and prescriptive analytics. Written reports are required for group submissions. There will be a formal peer evaluation to evaluate each one's contribution to teamwork and leadership in conducting the group projects.

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

This hybrid class meets once a week. Therefore, we need to prepare for additional self-study and work outside the classroom. 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 a100% 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	Altair AI Studio Assignments	Class Assignments
Jan-19	1	Holiday – No Class Meeting		

Date	Chapter	In Class Topic	Altair AI Studio Assignments	Class Assignments
Jan-26	1	Overview of Business Intelligence, Analytics, Data Science, and Artificial Intelligence	Altair AI Studio Account Set Up and Studio Installation	Syllabus Quiz, Self Introduction
Feb-02	3	Nature of Data, Statistical Modeling, and Visualization / SQL Tutorial	Machine Learning (ML) - Welcome	
Feb-09	3	Nature of Data, Statistical Modeling, and Visualization / SQL Tutorial	ML Course - Intro to ML (part 1)	EXCEL Assignment
Feb-16	4	Data Mining Process, Methods, and Algorithms	ML Course - Intro to ML (part 2)	Codecademy Learn SQL
Feb-23		Exam 1 - Chapters 1, 3, and Assignments		Group Assignment 1 & Exam 1
Mar-02	4	Data Mining Process, Methods, and Algorithms	ML Course - Supervised Learning (part 1)	
Mar-09	4	Holiday – No Class Meeting		
Mar-16	5	Machine-Learning Techniques for Predictive Analytics	ML Course - Supervised Learning (part 2)	
Mar-23	5	Machine-Learning Techniques for Predictive Analytics / SQL	ML Course - Supervised Learning (part 3)	
Mar-30	6	Deep Learning and Cognitive Computing	ML Course - Scoring	SQL Zoo Assignment 1
Apr-06		Exam 2 - Chapters 4, 5, 6, and Assignments		Group Assignment 2 & Exam 2
Apr-13	7	Text Mining, Sentiment Analysis, and Social Analytics	ML Course - Unsupervised Learning (part 1)	
Apr-20	7, 8	Text Mining & Prescriptive Analytics	ML Course - Unsupervised Learning (part 2)	
Apr-27	8	Prescriptive Analytics: Optimization and Simulation / SQL	ML Course - Feature Engineering	
May-04	9	Big Data, Cloud Computing, and Location Analytics	ML Course – Auto Model	SQL Zoo Assignment 2
May-11	Finals	Exam 3 - Chapters 7, 8, 9, and Assignments	ML professional certification test	Group Assignment 3 & Exam 3