Course Syllabus: Introduction to Business Analytics

Dillard College of Business Administration
MIS 5113, Section X40
Summer 2026
Online

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 produce creative responses to business situations. The assignments require students to apply analytics to business situations. Various class activities will also require students to respond to business situations.
- Our students will communicate at a professional level. The class assignments require students to 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
- Complete Altair RapidMiner Academy Machine Learning Certification and Learn SQL in Codecademy.

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 download and work with the software. More installation instructions are in "D2L-Content-Read Me First." Note that Chromebook will NOT be able to accommodate this software.
- Altair RapidMiner Academy is set up to access all the hands-on learning tutorials from Machine Learning Professional Course and take the certification exam at the end of the class.
- We also use Codecademy Learn SQL unit to learn and practice SQL queries.
- Dillard computer labs have access to all the software needed.

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	36
Codecademy SQL Learning Units	10
Machine Learning Certificate Exam	10
Participation (Syllabus Quiz, Self-Intro, Discussions, etc.)	4
Total Points	100

Table 2: Total points for final grade.

Grade	Points (Decimal Round to the Nearest Whole Number)
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, exercises, and external online learning units. Students are responsible for all posted materials, even if it is not directly discussed in class. Exams will be proctored by Respondus Monitoring Program with a web camera. The exam will be auto-submitted once time runs out.

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.

SQL hands on learning: please finish the Codecademy "Learn SQL." Please note there are 4 learning units in this course.

Attendance and Participation

This is an online class. Participation in all formats (questions, answers, comments, and feedback) is highly encouraged to achieve a good participation grade. Participation also includes syllabus quiz, self-introduction, and other course related discussions.

Late or Missing Work

This is an online course spanning only five weeks. Therefore, we need to emphasize self-study and planning on finishing course assignments. An ample time window will be provided to take exams and complete tasks. Written verification is mandatory for late or missing work. The instructor must be contacted by the day of the scheduled activity, or makeup will NOT be allowed. A deduction may be assessed for a late exam or assignment at the instructor's discretion.

Important Dates

- Refer to: Academic Calendar

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	Day	Chapter Topic	Dues
6/Jul	1	Overview of Business Intelligence, Analytics, Data Science, and AI	
7/Jul	1	Overview of Business Intelligence, Analytics, Data Science, and AI	Self-introduction & Syllabus Quiz
8/Jul	3	Nature of Data, Statistical Modeling, and Visualization	Altair RapidMiner Machine Learning (ML) Professional Course - Welcome
9/Jul	3	Nature of Data, Statistical Modeling, and Visualization / SQL Supplement	Codecademy Learn SQL Unit Completion
13/Jul		Exam 1 Chapter 1, 3, and basic SQL	
14/Jul	4	Data Mining Process, Methods, and Algorithms	ML Course - Getting Started
15/Jul	4	Data Mining Process, Methods, and Algorithms	ML Course - Intro to ML (part 1)
16/Jul	5	Machine-Learning Techniques for Predictive Analytics	ML Course - Intro to ML (part 2)
20/Jul	5	Machine-Learning Techniques for Predictive Analytics	ML Course - Supervised Learning (part 1)
21/Jul	6	Deep Learning and Cognitive Computing	ML Course - Supervised Learning (part 2)
22/Jul	6	Deep Learning and Cognitive Computing	ML Course - Supervised Learning (part 3)
23/Jul		Exam 2 Chapter 4, 5, and 6	
27/Jul	7	Text Mining, Sentiment Analysis, and Social Analytics	ML Course - Scoring

Date	Day	Chapter Topic	Dues
28/Jul	7	Text Mining, Sentiment Analysis, and Social Analytics	ML Course - Unsupervised Learning (part 1)
29/Jul	8	Prescriptive Analytics: Optimization and Simulation	ML Course - Unsupervised Learning (part 2)
30/Jul	8	Prescriptive Analytics: Optimization and Simulation	ML Course - Feature Engineering
3/Aug	9	Big Data, Cloud Computing, and Location Analytics: Concepts and Tools	ML Course - Auto Model
4/Aug	9	Big Data, Cloud Computing, and Location Analytics: Concepts and Tools	Review
5/Aug		Exam 3 Chapter 7, 8, and 9	
6/Aug		Altair RapidMiner Machine Learning professional certification exam	