

THE UNIVERSITY OF TEXAS AT EL PASO
Department of Accounting & Information Systems

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CSI 4301 - Business Intelligence and Decision Modeling (CRN: 14918)
Course Syllabus, Fall 2023

Class Hours: 9:00 – 10:20 MW

Office Hours: 10:30 – 12:00 PM; 3:00 – 4:30 PM | Mon & Wed and by appointment

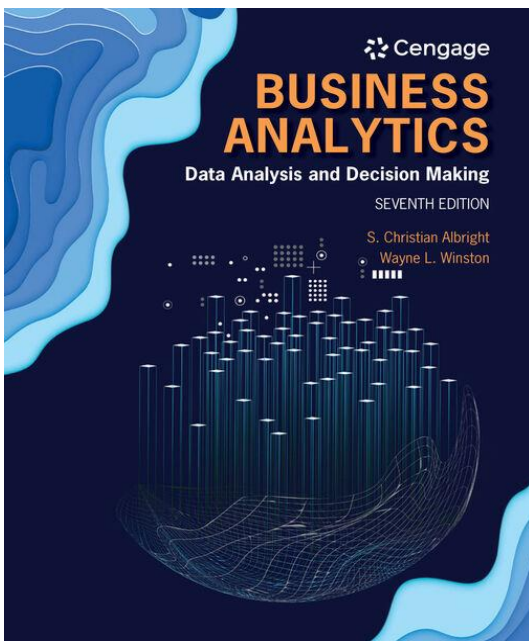
Course Description: The focus of this course is on popular analytics models (predictive, optimization, prescriptive) used in different industries and functional areas. Students will learn how to formulate, solve, and interpret different optimization and simulation models. Decision modeling processes will be covered, which will enable students to translate practical decision problems into quantitative models; analyze the properties of decision models; apply appropriate decision models; execute models with software tools; and interpret the model outputs for intelligent decisions.

Course Objectives

After taking this course, students will be able to:

- Understand the role and value of data analytics in business decisions,
- Identify and assess opportunities for creating value using data-driven decision making,
- Identify and utilize the right data-centric tools and techniques
- Interpret the output of tools and techniques and run sensitivity analyses to improve business decisions.
- Perform Descriptive Analytics, Predictive Analytics, and Prescriptive Analytics.
- Be familiar with AI applications in business functions.
- Use different machine learning techniques to perform predictive and prescriptive analytics.
- Analyze legal, privacy, and ethical Issues on individuals, organizations, and society.

Required Text: *Business Analytics: Data Analysis & Decision Making* by S. Christian Albright, Wayne L. Winston, 7th Edition, Copyright 2022



MindTap and Cengage

How to purchase the MindTap and the text and course materials

Step 1: Sign into Blackboard and click on CIS 4301

Step 2: Click on the Cengage link: MindTap eBook and Assignments for CIS4301

Step 3: Create or sign into your Cengage account to access or purchase the materials for this course

You will have a 14-day grace period, and you should purchase a subscription to Cengage Unlimited. Please use this link below for help with MindTap on Blackboard Registration, if needed. <https://play.vidyard.com/yUAP2eFUunPkCeXniVjqcY>

Attendance: Students are strongly encouraged to attend each class session and participate in class discussions. Students who attend class regularly perform substantially better in the exams than those who do not.

Teaching Methods:

1. Lectures: Important material from the text and outside sources will be covered in class. Students should plan to take careful notes as not all material can be found in the texts or readings. Discussion is encouraged as is student-procured outside material relevant to the topics being covered.
2. Hands-on and labs
3. Assignments: End-of-chapter activities and online activities will be assigned weekly to reinforce the material in the text. These assignments may require the application of various software packages.
4. Group projects
5. Quizzes
6. Exams: Three learning assessments will be given based on the textbook material.

Attendance:

Participation: Student participation will be graded by the level of class participation and attendance. *You are expected to attend classes regularly (except on the lab days) and on time. You take full responsibility when you miss class or come to class late.* If you miss class, it is your responsibility to find out about new assignments/exercises and pick up missed handouts.

Course Evaluation:

All assignments are individual assignments. Outsourcing of assignments is not permitted. Submit on-time. There is no make-up. ** Late work is not accepted. Don't even ask. Period. ** Computer issues (Server/Blackboard/Brower, etc...) are not a valid excuse to miss an assignment. These are minimum course requirements.

Grade Components: Grades will be based on a series of quizzes, exams, projects, and presentations. Grades are not given; they are **EARNED**. You must work for it. Your grade will be based on results rather than on effort—your performance is an indicator of your ability to master the topic. Decide to work **NOW** for the grade you want. Students who keep up with the materials, do all of the assignments and participate in the learning experiences typically do well. Your grade will be based on the total number of points that you earn for each assignment group. The weight associated with each graded area and the total points required to earn the various grades are shown below.

Assignment Group	Weight
Cengage Assignment	35%
Exams (10 * 3 assessments)	30%
Quizzes	10%
In Class Practice & Assignments	10%
Final Project & Presentation	15%
Total	100%

You will be able to check the status of your grade at any point during the semester by accessing 'My Grades' section of the BLACKBOARD classroom.

Your grade will be calculated using the following scale:

Grade	Level of Work	Percentage Range
A	Excellent, distinguished	90 – 100%
B	Very good, above average	80 – 89%
C	Average, Normal	70 – 79%
D	Below Average	60 - 69%
F	Failing	<60%

A grade of "I" (**Incomplete**) will be assigned only in circumstances in agreement with the current UTEP Undergraduate Catalog.

Cengage Projects: (25%) - See Blackboard for details.

Exams (45%) of the total grade: Each exam will consist of a combination of multiple-choice, short answer, matching, and/or True/False questions which may involve the concepts discussed in your textbook materials covered in your assigned projects and labs, and operating procedures and rules of the network being studied. Each exam will contain questions from the material covered since the last exam. If you miss exam 1 or 2, and have an approved excuse, a make-up exam may be held within one week from the original exam date. There will be *no make-up* for the third exam.

Three exams will be given during the course. The third exam is the final exam. It will not be cumulative and is scheduled during the final exam period. A student who is unable to take an exam due to an emergency must inform me of that fact on or earlier than the day of the exam and arrange for a make-up exam. Any student requiring a make-up will have to document his/her excuse (e.g., a letter from a physician written on the physician's letterhead).

ACADEMIC DISHONESTY

I expect all students to conduct themselves with the highest level of integrity. You have the opportunity throughout your business career to demonstrate your own level of integrity. Similarly, in this class, you will have an opportunity to demonstrate academic integrity. The two are inextricably linked. I encourage you to think about the standard you set for business integrity in your career and to implement that standard with respect to your academic integrity in this class.

Academic dishonesty in any form will not be tolerated. For a definition of academic dishonesty and its consequences, see your student handbook.

For the purposes of this course, academic dishonesty includes, but is not limited to,

- Copying another student's solution or allowing another student to copy your solution
- Removing or copying pages or problems from exams or quizzes, including those posted on the World Wide Web
- Any other activity that jeopardizes the integrity of this course.

COURSE RESOURCES:

UTEP provides a variety of student services and support:

Technology Resources

Help Desk: Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.

Blackboard

You must have access to BLACKBOARD for this course. You can log in to BLACKBOARD at <http://my.UTEP.edu>. Our 'virtual classroom' in BLACKBOARD will include items such as:

- The course syllabus, schedule, and assignments
- Final project description
- Announcements
- Grades
- -ALL- Communication, such as Instant Messenger, Video Lectures, Virtual Office hours, and Course Messages.

We will spend some time during the first class session reviewing the organization and content of our course online.

Computer

A computer with access to the Internet and a printer are required. Exams are taken online via Blackboard, and all assignments must be uploaded and/or completed in Blackboard in order to receive credit. This course is Blackboard-assisted, and many activities, such as file distribution, emails, assignment submission, and announcements between classes, are taking place exclusively through Blackboard. Therefore, students are expected to have access to a computer, Internet, and Microsoft Office in this course. If you do not have your own, computers are available to all UTEP students in the labs across the campus.

Academic Resources

UTEP Library: Access a wide range of resources including online full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.

University Writing Center (UWC): Submit papers here for assistance with writing style and formatting, ask a tutor for help, and explore other writing resources.

Math Tutoring Center (MaRCS): Ask a tutor for help and explore other available math resources.

History Tutoring Center (HTC): Receive assistance with writing history papers, get help from a tutor, and explore other history resources.

RefWorks: A bibliographic citation tool; check out the RefWorks tutorial Fact Sheet and Quick-Start Guide.

The Miner Learning Center: Join peer-led study sessions in person or online to review content and discover study strategies in core curriculum courses.

UTEP Edge: UTEP's cross-campus framework for student success and empowerment – develops students' assets through high-impact experiences made possible by the expertise and dedication of faculty, staff, alumni, and community partners.

Individual Resources

Student Success Help Desk (SSHD): Students experiencing challenges or obstacles to academic success including registration, financial, food, housing, and transposition resources may submit a ticket request assistance to studentsuccess@utep.edu

Military Student Success Center: Assists personnel in any branch of service to reach their educational goals.

Center for Accommodations and Support Services: Assists students with ADA-related accommodations for coursework, housing, and internships.

Counseling and Psychological Services: Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.

UTEP Food Pantry: Non-perishable food items are available to students who are currently enrolled in classes. Bring a Miner Gold Card to Memorial Gym, Room 105, Monday through Friday, 10 a.m. to 2 p.m.

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CLASS SCHEDULE:

The course calendar with a week-by-week description of the course activities can be found in BLACKBOARD. It includes the topics to be covered that week, assignments, and all due dates. It is impossible to predict the precise flow of the course and these dates may have to be adjusted slightly from time to time. Modifications to the schedule and changes in course requirements will be announced in class and/or through BLACKBOARD. As stated earlier, BLACKBOARD is a critical component of this course.

I reserve the right to change any assignment if circumstances dictate. Students will be notified of such changes through an announcement in class AND/OR via BLACKBOARD. It is the student's responsibility to be aware of such change.

Date & Chapter	Topic	Assignments & Due Dates
08/28 – 09/01 Chapter 1 & More	Introduction to Business Analytics Overview of Business Intelligence, Analytics, Data Science, Artificial Intelligence: Systems for Decision Support	Chapter 1 Excel Activity 1 (09/04)
09/04 – 09/08 Chapter 2	AI Concepts, Drivers, Major Technologies, and Business Applications Describing the Distribution of a Variable	Chapter 2 Assignment & Chapter 2 Quiz (09/11)
09/11 – 09/15 Chapter 3	Finding Relationships among Variables	Chapter 3 Assignment & Chapter 3 Quiz (09/18)
09/18 – 09/22 Chapter 4	Business Intelligence (BI) Tools for Data Analysis	Chapter 4 Assignment & Chapter 4 Quiz (09/25)
09/25 – 09/29 Chapter 6 Data Mining Project	Exam 1: Decision Making under Uncertainty	Exam 1 (09/27) Chapter 6 Assignment & Chapter 6 Quiz (10/02)
10/02 – 10/06 Chapters 10 & 11	Regression Analysis: Estimating Relationships & Statistical Inference	Chapter 10 Assignment & Chapter 10 Quiz (10/09) Chapter 11 Assignment (10/13)
10/09 – 10/13 Lab Skills	Text Mining, Sentiment Analysis, and Social Analytics	Test Mining Assignment (TBA)
10/16 – 10/20 Chapter 12	Time Series Analysis and Forecasting	Chapter 12 Assignment & Chapter 12 Quiz (10/27)
10/23 – 10/27 Chapter 13	Introduction to Optimization Modeling	Chapter 13 Assignment & Chapter 13 Quiz (10/30)
10/30 – 11/03 Chapter 14 ML Project	DROP DATE – NOV 3rd Optimization Models: Prescriptive Analytics ML Labs	Chapter 14 Assignment & Chapter 14 Quiz (11/06)
11/06 – 11/10 Chapters 15 & 16	Exam 2 Introduction to Simulation Modeling & Models	Exam 2 (11/08) Chapter 15 Assignment & Chapter 15 Quiz (11/13)

11/13 – 11/17 Chapter 17	Data Mining Process, Methods, and Algorithms	
11/20 – 11/24 Lab Skills	Machine-Learning Techniques for Predictive Analytics Thanksgiving on 23-24th	
11/27 – 12/01 Additional Source	Implementation Issues: From Ethics and Privacy to Organizational and Societal Impacts	
12/04 – 12/08 Final Project	Group Presentations Exam 3	Presentations (12/04; 12/06) Exam 3 (12/06)