



CIS 3302-110, 80371, BUSINESS ANALYTICS

Fall 2023

Texas A&M University-Central Texas

COURSE DATES, MODALITY, AND LOCATION

This course is entirely conducted in-person and utilizes the A&M-Central Texas Canvas Learning Management System, accessible at [<https://tamuct.instructure.com/>]. Additionally, all course-related content such as syllabus, course schedule, additional readings, class announcements, presentations, learning modules, assignments, and other materials will be available on the Canvas platform. The course is scheduled to begin on August 28, 2023, and continue until December 15, 2023. The course convenes from **11:00** am to **12:15** pm on both **Mondays** and **Wednesdays**.

INSTRUCTOR AND CONTACT INFORMATION

Instructor: Frantzy Mesadieu

Email: f.mesadieu@tamuct.edu

Office Hours

For all questions and concerns related to this course outside of lecture's hours, please send an email(s) to f.mesadieu@tamuct.edu to schedule an appointment. I am available to all students; however, it will be on an appointment basis. You may choose to have meetings through Microsoft Teams, or by telephone. I will send you an email to your Warrior email account to confirm all appointments. Please make sure to use your Warrior account when emailing me. Emails from other providers will not receive a response.

Student-instructor interaction

I will reply to every student's email within 24-48 hours upon receiving them.

Emergency Warning System for Texas A&M University-Central Texas

SAFEZONE. SafeZone provides a public safety application that gives you the ability to call for help with the push of a button. It also supplies Texas A&M University-Central Texas with the

ability to communicate emergency information quickly via push notifications, email, and text messages.

All students automatically receive email and text messages via their myCT accounts. Downloading SafeZone allows access to push notifications and enables you to connect directly for help through the app.

- You can download SafeZone from the app store and use your myCT credentials to log in. If you would like more information, you can visit the [SafeZone](http://www.safezoneapp.com) website [www.safezoneapp.com].

To register SafeZone on your phone, please follow these 3 easy steps:

1. Download the SafeZone App from your phone store using the link below:
 - [iPhone/iPad](https://apps.apple.com/app/safezone/id533054756): [https://apps.apple.com/app/safezone/id533054756]
 - [Android Phone / Tablet](https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp) [https://play.google.com/store/apps/details?id=com.criticalarc.safezoneapp]
2. Launch the app and enter your myCT email address (e.g., {name}@tamuct.edu)
3. Complete your profile and accept the terms of service

For updates on COVID information, please check the University [website](https://www.tamuct.edu/covid19/) [https://www.tamuct.edu/covid19/]

COURSE INFORMATION

Course Overview and description

This course is an introduction to the concepts and applications of business analytics. Most companies today collect an overwhelming amount of data. However, gaining insight from analytics continues to elude many organizations. Business analytics require individuals to be knowledgeable in the fundamentals of business (e.g., knowing the right questions to ask) as well as an array of disciplines from information systems, machine learning and statistics. To help meet the market demand for analytics professionals, this course provides students with an analytical toolset that enables them to address data-driven business problems. The course features case studies and hands-on approaches to demonstrate the analytics concepts and techniques used in the business world. The course makes use of the leading business analytics tools: **Python**, **R** and **R Studio**.

Course Objective or Goal

Student Learning Outcomes

At the conclusion of the course the student will be able to:

- Explain what business and data analytics are; how they differ from business intelligence and data mining; and why organizations are actively adopting this orientation for strategic advantage.

- Describe how managers use business analytics to formulate and solve business problems and to support managerial decision making.
- Execute advanced Microsoft Excel skills for data analysis Summarize and describe data using tabular and graphical methods Interpret analysis methods in business contexts.
- Explain ethical issues that arise when using business analytics techniques.
- Summarize data using visualization and descriptive analytics.
- Apply statistical and data-mining techniques for predictive analysis and decision making.
- Interpret and communicate analysis results to business audience.
- Demonstrate effective participation in teams.

Required Reading and Textbook(s)

Title: Business Analytics: Communicating with Numbers

Authors: Sanjiv Jaggia, Alison Kelly, Kevin Lertwachara, and Leida Chen

Edition: 2nd

Publisher: McGraw Hill Education

ISBN 978-1-264-30280-2 (bound edition)

ISBN 978-1-265-89710-9 (loose-leaf edition)



Note: It is important to know that students are not obligated to purchase any specific textbooks or reading materials for this course.

COURSE REQUIREMENTS

In-class exercises: In most class meetings, students will work on assignments related to the materials discussed on that day. Each in-class assignment is due by the end of the class meeting.

Group Projects: Teams of **3** students will be formed to develop a comprehensive business analytics plan for an organization described in a case that will be assigned by the instructor.

Homework: Homework will involve hands-on activities using both “Microsoft Excel” and “Jupyter Notebook” <https://www.anaconda.com/download>. Assignments are to be completed individually, not in groups. Homework will be assigned approximately once every two weeks and will be due the following week. The homework assigned on a Monday is due the following on Sunday at 11:59 PM before class, the same is also true for any homework assigned on a Wednesday. Late submissions will not be accepted.

Class attendance: Students are expected to arrive on time and attend every class. If a class is missed, it is your responsibility to obtain class notes, handouts, etc. from your classmates. Students are also expected to take part in class discussions and work on in-class exercises. Any use of phones, portable devices, emails, instant messengers, Internet, or materials not related to class shall be used in a manner that is not distracting or disturbing to other students.

Exams: There will be two (3) exams to be completed in Connect as accessed through the A&M Central Texas Canvas Learning Management System. The exams will include 5 to 10 questions. Some questions may have multiple parts, with each part receiving a specific grade. Please note that these questions are designed to test your proficiency in data analysis using Python and visualization in Excel, while also

assessing your understanding of key business concepts. The exam’s questions will be structured similarly to both your homework assignments and class demonstrations. Each exam includes one (1) attempt. Each exam is worth a maximum of 120 points, for a combined total of 360 points.

Grading Criteria Rubric and Conversion

Required Activity	Quantity	Weight	Points	Total
Discussion Forum	4	5%	10	40
Homework	5	35%	56	280
Mid-Term Exams	3	45%	120	360
Course Project	1	10%	80	80
Final Presentation	1	5%	40	40
Total				800

Point Range	Letter Grade
800-720	A
719-640	B
639-560	C
559-480	D
479-0	F

Posting of Grades

Grades will be posted to the Canvas grade book as assignments are graded. This will typically be done once all students have submitted their assignment.

Grading Policies

All assignments must be submitted before the posted deadline. No late assignments will be accepted.

COURSE OUTLINE AND CALENDAR

Complete Course Calendar

Weeks	Dates	Topics	Deliverables
1	08/28/23 - 09/03/23	Syllabus Reading and Orientation	Meet & greet
2	09/04/23 - 09/10/23	Chapter 1 Lecture Introduction to Business Analytics	Discussion 1 Homework #1
3	09/11/23 - 09/17/23	Chapter 2 Lecture Data Management and Wrangling	Class Participation

4	09/18/23 - 09/24/23	Chapter 2 Exercise	Homework #2
5	09/25/23 - 10/01/23	Chapter 3 Lecture Summary Measures	Class Participation
6	10/02/23 - 10/08/23		Exam #1
7	10/09/23 - 10/15/23	Chapter 4 Lecture Data Visualization	Discussion 2 Homework #3
8	10/16/23 - 10/22/23	Chapter 4 Exercise	Class Participation
9	10/23/23 - 10/29/23	Chapter 5 Lecture Probability and Probability Distributions	Homework #4
10	10/30/23 - 11/05/23	Chapter 5 Exercise	Discussion 3
11	11/06/23 - 11/12/23		Exam #2
12	11/13/23 - 11/19/23	Chapter 6 Lecture Statistical Inference	Discussion 4
13	11/20/23 - 11/26/23	Chapter 6 Exercise	Homework #5
14	11/27/23 - 12/03/23	Chapter 7 Lecture Regression Analysis Final Project	Course project
15	12/04/23 - 11/10/23	PowerPoint Presentation	Presentation
16	12/11/23 - 11/15/23		Final Exam

Important University Dates

Please see the attached link for the A&M-Central Texas Academic Calendars, which track important deadlines and dates for the school year and semesters:

<https://www.tamuct.edu/registrar/academic-calendar.html>

TECHNOLOGY REQUIREMENTS AND SUPPORT

This course will use Microsoft Office 365 software and Jupyter Notebook. As a university student, you can download the software free of charge. Please access this University link for download instructions: <https://tamuct.onecampus.com/task/all/office365-software>

For Jupyter notebook, please go to: <https://www.anaconda.com/download>.

This course uses Frontline Solvers, an Excel add-in software. You will be provided detailed instructions, in advance of the course start date, on how you can obtain and download both resources.

Technology Requirements

- ❖ This course will use the A&M-Central Texas Instructure Canvas learning management system. ***We strongly recommend the latest versions of Chrome, Firefox, Edge, or Safari browsers.*** Canvas will also run on Windows, Mac, Linux, iOS, android, or any other device with a modern web browser. **Please note that Canvas no longer supports any version of Internet Explorer.**

Logon to A&M-Central Texas Canvas [<https://tamuct.instructure.com/>] or access Canvas through the TAMUCT Online link in myCT [<https://tamuct.onecampus.com/>] by clicking on the “TAMUCT Online Canvas” tile. You will then log in through our Microsoft portal.

- Username: Your MyCT email address. Password: Your MyCT password

Canvas Support

Use the Canvas Help tab, located at the bottom of the left-hand menu, for issues with Canvas. You can search the support articles or use the Email, Call, or Chat buttons at the bottom of the support pop-up to contact the Canvas Help Desk.

For issues related to course content and requirements, contact your instructor.

Online Proctored Testing

Texas A&M University-Central Texas uses Proctorio for online identity verification and proctored testing. This service is provided at no direct cost to students. If the course requires identity verification or proctored testing, the technology requirements are: Any computer meeting the minimum computing requirements, plus web camera, speaker, and microphone (or headset). Proctorio requires use of the Chrome web browser with their custom plug in installed.

Other Technology Support

For log-in problems, students should contact Help Desk Central, 24 hours a day, 7 days a week.

Email: helpdesk@tamu.edu

Phone: (254) 519-5466

[Web Chat](http://hdc.tamu.edu): [http://hdc.tamu.edu]

Please let the support technician know you are an A&M-Central Texas student.

UNIVERSITY RESOURCES, PROCEDURES, AND GUIDELINES

Warrior Center for Student Success

The Warrior Center for Student Success is a comprehensive academic support department at A&M-Central Texas, dedicated to fostering an environment of excellence and empowerment among its student body. The center offers a wide range of programs and services to ensure every student reaches their full potential, and is a haven for students seeking guidance, resources, and a strong support network to excel in their educational journey.

ADA Access and Accommodations: Texas A&M University-Central Texas ensures that students with disabilities have equal access to educational opportunities by providing appropriate accommodations and support services. If you believe you have a physical, learning or socio-emotional disability requiring reasonable accommodations, please visit [Access and Inclusion](https://www.tamuct.edu/student-affairs/access-inclusion.html) [https://www.tamuct.edu/student-affairs/access-inclusion.html] for more details or contact the Office of Access and Inclusion, WH-212; (254) 501-5836. Any information you provide is private and confidential.

Success Coaching and Peer Mentoring: Our experienced Success Coaches work one-on-one with students to develop personalized action plans, set academic goals, and build effective study strategies, time management skills, and resilience. Our Peer Mentors provide a valuable support system, offering guidance, encouragement, and a relatable perspective to help students navigate their academic and personal challenges. For more details call 254-501-5836 or 254-501-5928 or visit [Academic Support](https://www.tamuct.edu/student-affairs/academic-support.html) [https://www.tamuct.edu/student-affairs/academic-support.html]. Click the link to schedule a session (virtual or in-person) with a success coach bit.ly/3q7uB50 or visit WH, 111.

Testing Services: We offer a secure and comfortable environment for students and members of the community to take courses and distance learning exams, as well as placement tests and professional certification exams. Our Testing Service also offers resources and support referrals for testing related challenges (test anxiety, learning disabilities, etc.) and supports all approved ADA accommodations. Call (254) 519-5830 or visit the [Testing Center](https://www.tamuct.edu/testing-center/) [https://www.tamuct.edu/testing-center/].

Tutoring and Supplemental Instruction Services: Our team of qualified Tutors and Supplemental Instructors assist students in various non-writing subjects, promoting academic comprehension and enhancing learning outcomes. Click the link to schedule a tutoring session with a TAMUCT tutor (virtual or in-person) or view tutor availability bit.ly/43Q6wNz. You may also chat live with a remote tutor 24/7 for a variety of subjects through our partnership with Tutor.com, an online tutoring platform that is free to all TAMUCT students. To learn more

please visit [Tutoring Services](https://www.tamuct.edu/student-affairs/academic-support.html#tutoring) [https://www.tamuct.edu/student-affairs/academic-support.html#tutoring] or call (254) 501-5836 or visit the Tutoring Hub in Warrior Hall, 111.

Academic Integrity

Texas A&M University-Central Texas values the integrity of the academic enterprise and strives for the highest standards of academic conduct. A&M-Central Texas expects its students, faculty, and staff to support the adherence to high standards of personal and scholarly conduct to preserve the honor and integrity of the creative community. Any deviation by students from this expectation may result in a failing grade for the assignment and potentially a failing grade for the course. All academic misconduct concerns will be referred to the Student Conduct Office. When in doubt on collaboration, citation, or any issue, please contact your instructor before taking a course of action.

For more information regarding the [student conduct process](https://www.tamuct.edu/student-affairs/student-conduct.html), [https://www.tamuct.edu/student-affairs/student-conduct.html].

If you know of potential honor violations by other students, you may [submit a referral](https://cm.maxient.com/reporting.php?TAMUCentralTexas), [https://cm.maxient.com/reporting.php?TAMUCentralTexas].

Drop Policy

If you discover that you need to drop this class, you must complete the [Drop Request](#) Dynamic Form through Warrior Web.

[https://federation.ngwebsolutions.com/sp/startSSO.ping?PartnerIdpid=https://eis-prod.ec.tamuct.edu:443/samlSso&SpSessionAuthnAdapterId=tamuctDF&TargetResource=https%3a%2f%2fdynamicforms.ngwebsolutions.com%2fSubmit%2fStart%2f53b8369e-0502-4f36-be43-f02a4202f612].

Faculty cannot drop students; this is always the responsibility of the student. The Records and Admissions Office will provide a deadline on the Academic Calendar for which the form must be completed. Once you submit the completed form to the Records and Admissions Office, you must go into Warrior Web and confirm that you are no longer enrolled. If you still show as enrolled, FOLLOW-UP with the Records and Admissions Office immediately. You are to attend class until the procedure is complete to avoid penalty for absence. Should you miss the drop deadline or fail to follow the procedure, you will receive an F in the course, which may affect your financial aid and/or VA educational benefits.

Pregnant and/or Parenting Students Rights and Accommodations

Texas A&M University-Central Texas supports students who are pregnant, experiencing pregnancy-related conditions, and/or parenting. In accordance with requirements of [Title IX and related guidance from US Department of Education's Office of Civil Rights](#), the Associate Dean in the Division of Student Affairs, (254) 501-5909, can assist students who are pregnant, experiencing pregnancy-related conditions, and/or parenting by provide flexible and individualized reasonable accommodations. Students should seek out assistance as early in the

pregnancy as possible through the [Pregnancy & Parenting webpage](https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html) [https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html]. For more information, please visit [Student Affairs](https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html) [https://www.tamuct.edu/student-affairs/pregnant-and-parenting-students.html]. If you would like to read more about these [requirements and guidelines](http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf) online, please visit the website [http://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.pdf]. [Title IX of the Education Amendments Act of 1972](https://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.html) specifically prohibits discrimination against a student based on pregnancy, childbirth, false pregnancy, termination of pregnancy, or recovery from any of these conditions [https://www2.ed.gov/about/offices/list/ocr/docs/pregnancy.html]. Students experiencing any form of discrimination due to any of these conditions are encouraged to reach out to the Title IX Coordinator, 254.519.5716, titleix@tamuct.edu, Founders Hall 317B, or the Associate Dean of Student Affairs, 254.501.5909, Warrior Hall 105.

Title IX Rights and Reporting Responsibilities

Texas A&M University-Central Texas is committed to creating a safe and open learning environment for all students. If you or another student has experienced any form of gender discrimination or sexual misconduct, including sexual harassment, sexual assault, dating/domestic violence, and/or sex-based stalking, help and support are available. Our university strongly encourages all members of our campus community to report incidents and seek support for gender discrimination and sexual misconduct through the Title IX Office. You may contact the Title IX Office at 254.519.5716, titleix@tamuct.edu, Founders Hall 317B, or learn more by visiting the [Title IX webpage](https://www.tamuct.edu/compliance/titleix.html) [https://www.tamuct.edu/compliance/titleix.html]. Please be aware that that under [Title IX](https://policies.tamus.edu/08-01-01.pdf), [Texas Senate Bill 212](https://policies.tamus.edu/08-01-01.pdf), and [System Regulation 08.01.01](https://policies.tamus.edu/08-01-01.pdf), [https://policies.tamus.edu/08-01-01.pdf] all university employees are mandated reporters and are required to disclose information about suspected or alleged violations as listed above and defined in System Regulation 08.01.01. If the Title IX Office receives information about an incident, they will reach out to offer information about resources, rights, and procedural options as a member of the campus community. Although I have an obligation to report, you will, in most cases, control how your case will be handled. When working with the Title IX Office you will have access to resources and accommodation but also have the opportunity to express if you wish to move forward with an investigation. Our goal is to make sure you are aware of the options available to you as a student. Community members are not required to respond to this outreach.

If you or another student wishes to speak to a confidential employee who does not have this reporting responsibility, you can contact the [Student Wellness & Counseling Center](https://www.tamuct.edu/student-affairs/student-counseling.html), [https://www.tamuct.edu/student-affairs/student-counseling.html], 254.501.5955, or swacc@tamuct.edu, located in Warrior Hall Room 207L or the Student Support Advocate, 254.501.5978 or ssa@tamuct.edu, located in founder Hall Room 317D.

University Library & Archives

The University Library & Archives provides many services in support of research across campus and at a distance. We offer over 350 electronic databases containing approximately 1,203,947

eBooks and 134,750 journals, in addition to the 96,879 items in our print collection, which can be mailed to students who live more than 50 miles from campus. Research guides for each subject taught at A&M-Central Texas are available through our website to help students navigate these resources. On campus, the library offers technology including cameras, laptops, microphones, webcams, and digital sound recorders.

Research assistance from a librarian is also available 24 hours a day through our online chat service, and at the reference desk when the library is open. Research sessions can be scheduled for more comprehensive assistance, and may take place virtually through WebEx, Microsoft Teams or in-person at the library. [Schedule an appointment here](https://tamuct.libcal.com/appointments) [https://tamuct.libcal.com/appointments]. Assistance may cover many topics, including how to find articles in peer-reviewed journals, how to cite resources, and how to piece together research for written assignments.

Our 27,000-square-foot facility on the A&M-Central Texas main campus includes student lounges, private study rooms, group workspaces, computer labs, family areas suitable for all ages, and many other features. Services such as interlibrary loan, TexShare, binding, and laminating are available. The library frequently offers workshops, tours, readings, and other events. For more information, please visit our [Library website](https://tamuct.libguides.com/index) [https://tamuct.libguides.com/index]

University Writing Center

Located in Warrior Hall 416 and online, the University Writing Center (UWC) at Texas A&M University–Central Texas (A&M–Central Texas) is a free service open to all A&M–Central Texas students. The face-to-face hours of operation are from 10:00 a.m.-5:00 p.m. Monday and Thursday in Warrior Hall 416. Online tutoring is available Monday thru Thursday from 10:00 a.m.-5:00 p.m. and from 6:00-9:00 p.m. and on Saturdays from 12:00-3:00 p.m.

Tutors are prepared to help writers of all levels and abilities at any stage of the writing process. While tutors will not write, edit, or grade papers, they will assist students in developing more effective composing practices. By providing a practice audience for students' ideas and writing, our tutors highlight the ways in which they read and interpret students' texts, offering guidance and support throughout the various stages of the writing process. In addition, students may work independently in the UWC by checking out a laptop that runs the Microsoft Office suite and connects to WIFI, or by consulting our resources on writing, including all of the relevant style guides. Whether you need help brainstorming ideas, organizing an essay, proofreading, understanding proper citation practices, or just want a quiet place to work, the UWC is here to help!

Students may arrange a one-to-one session with a trained and experienced writing tutor by making an appointment via [WOnline](https://tamuct.mywconline.com/) [https://tamuct.mywconline.com/]. In addition, you can email Dr. Bruce Bowles Jr. at bruce.bowles@tamuct.edu if you have any questions about the UWC, need any assistance with scheduling, or would like to schedule a recurring appointment with your favorite tutor.

OTHER POLICY STATEMENTS

A Note about Sexual Violence at A&M-Central Texas

Sexual violence is a serious safety, social justice, and public health issue. The university offers support for anyone struggling with these issues. University faculty are mandated reporters, so if someone discloses that they were sexually assaulted (or a victim of Domestic/Dating Violence or Stalking) while a student at TAMUCT, faculty members are required to inform the Title IX Office. If you want to discuss any of these issues confidentially, you can do so through Student Wellness and Counseling (254-501-5955) located on the second floor of Warrior Hall (207L).

Sexual violence can occur on our campus because predators often feel emboldened, and victims often feel silenced or shamed. It is incumbent on ALL of us to find ways to actively create environments that tell predators we don't agree with their behaviors and tell survivors we will support them. Your actions matter. Don't be a bystander; be an agent of change. For additional information on campus policy and resources visit the [Title IX webpage](https://www.tamuct.edu/compliance/titleix.html) [https://www.tamuct.edu/compliance/titleix.html].

Behavioral Intervention

Texas A&M University-Central Texas prioritizes the safety and well-being of its students, faculty, staff, and community. To express your concerns about individuals, kindly refer them to the Behavioral Intervention Team. Your referral demonstrates your care. Submit your concern online. [https://cm.maxient.com/reporting.php?TAMUCentralTexas].

Anonymous referrals are also accepted. Please see the [Behavioral Intervention Team](https://www.tamuct.edu/bit) website for more information [https://www.tamuct.edu/bit]. If a person's behavior poses an imminent threat to you and or others, please call 911 or A&M-Central Texas University Police at 254-501-5805.

Copyright Notice

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