The University of Texas at Dallas

Course Syllabus – Fall 2025

Course Information

Course Number/Section	BUAN6335.502.25F/SYSM 6335.502.25F
Course Title	Organizing for Business Analytics Platforms
Term	Fall 2025

Professor Contact Information

Professor	Mandar Samant
Email Address	Mandar.Samant@UTDallas.edu
Days and Times	Thursday, 7 PM- 945 PM
Classroom	JSOM 12.210
Exam Dates	Final Exam: Dec 1-4 (**Test Center ONLY**)
Office Hours	Wednesday 430-630
Office Location	ATC 1.907/MS Teams is preferred as a first touch base.
Book an Appointment	Pls check my calendar and block a timeslot.

Teaching Assistant Contact Information

Teaching Assistant	Rinisha Snehal Dungdung
Email Address	Rinisha.Dungdung@UTDallas.edu
TA Office Hours	Monday, 2-4 PM
Mode	MS Teams

Course Modality and Expectations

E-learning portal will be our primary point of entry to access the virtual classroom, access content (lecture notes, slides, videos, assignments, et al), look out for communications from us or view grades.

Duration	**August 25- December 16, 2025**
Instructional Mode	**Traditional**
Couse Modality	Classes during this time, unless there is a change in the modality enforced by the University, will be strictly in-person and attendance will be enforced. Students are expected to attend classes during this time and an online option will not be provided. If students do not attend classes in-person, they will not receive attendance credit for that week. The class will not be streamed live, or any recordings be made available.
Expectations	• There is "NO" substitute to hard work. It has been scientifically proven that hard work is directly proportional to better grades. You are, however, free to prove me wrong! • "The master key of knowledge is, indeed, a persistent and frequent questioning." ASK Questions. Remember, there is no answer without a question. • "Help thy neighbor". Volunteer to help your peers. This is not only a class, but an experience that all of us want to relish. • Let the creative juices flow. If you wish to see some additional things in the class, let your professor know. • Time waits for no one. So, honor the deadlines. • Read before coming to the class. Don't forget – "Luck is what happens when preparation meets opportunity."

Course Pre-requisites, Co-requisites, and/or Other Restrictions

- Introduction to foundational cloud technology concepts is preferred.
- Beginner proficiency in any of the programming languages such as, but not limited to, Python, Java, C#, or similar is preferred.
- Beginner hands-on/knowledge in SQL is preferred.
- **More importantly, willingness to participate in class discussions and team projects is required.**

Course Description

The course develops conceptual understanding of platforms for business analytics and key business drivers that lead to business initiatives. The course examines how decision-makers in key functional areas of an enterprise rely on data teams, how teams identify and develop analytical and engineering techniques to solve business problems, and how data analytics platforms are adopted successfully. The course also emphasizes the development of business cases for strategic analytics initiatives and discusses best practices for descriptive, predictive, and prescriptive analytics.

Student Learning Objectives/Outcomes

Upon completion of this course, the student will be able to:

- Learn the key elements leading to challenges and success in building a data practice
- Gain holistic understanding on data analytics and data engineering domain, roles, best practices, trends, tools, and frameworks
- Gain foundational knowledge of cloud data platforms for data analytics and machine learning toolset
- Understand and discuss new business and technology trends in the data paradigm
- Understand how businesses manage analytics projects and platforms
- Discuss and learn from case studies on how data challenges are converted into opportunities
- Get conversant with data platforms, technologies, business drivers, and new data trends.
- Improve your ability to define key business and technical factors and issues relevant to a data transformation projects and examine their inter-relationships and learn to communicate and collaborate conceptually effectively

Required Textbooks and Materials

None

Audio recordings, slides that might be needed in the course would be made available in eLearning portal. eLearning will be used as the central platform to provide access to class content (e.g., class slides and assignment descriptions) and the recording of grades. All announcements (e.g., change in assignment dates) will be posted in eLearning and will be sent to the student email on record in eLearning. It is the students' responsibility to regularly check their UT Dallas email accounts and review the Announcements page in eLearning.

Required Materials

You will need a laptop from the first day of class. While any operating system is fine, it is recommended that the laptop have at least 8GB of ram and about 100MB hard disk space available.

For business case study assignments (group projects and individual assignments), you will also need to purchase HBR course pack. Stay tuned for specific case studies to be posted in the syllabus/eLearning portal.

The course will use leading cloud data platforms and related labs as a hands-on experience to practice and test the concepts learned in the weekly classroom discussion.

Technical Requirements

In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements on the Getting Started with eLearning webpage.

Lecture Preparation

All assigned lecture preparation is to be completed before class on the date the content will be covered in the lecture. Generally, the preparation materials will be available and/or listed in the Course Schedule on eLearning approximately a week before the lecture.

Lecture Session Guidelines

- Students are expected to be present, attentive, engaged, and participative during lectures.
- Students are expected to have a laptop open in class to enable participation in exercises and activities.
- Lectures will start on time and most often will use the entire class-time duration.
- Students are responsible for all materials covered in a lecture, irrespective of their attendance. Neither the TA nor the instructor are required to cover lecture content one- on-one for students missing lectures.

Academic Calendar

This is a **tentative** class schedule; changes to the schedule will be posted in eLearning. The following table gives a tentative outline and sequence of the topics to be covered or the activities to take place (exams or assignments) in these meetings. Assignments are due at the beginning of class; for example, an assignment due in Class 2 should be submitted through eLearning before the start of Class 2.
Weekly Agenda, topics and homework for each meeting will be posted before the class or shortly after the class.
Detailed labs and assignment submissions dates will be published at the end of the first week.

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Week	**Dates**	**Class Topic**	**Details**	**Student Deliverables**
1	**08/28**	Course Overview	• Greetings! Introduction! • Syllabus Overview • Data perspectives- yours, mine, and some of the experts. • Data Initiatives and challenges	Review syllabus
2	**09/04**	• Business justifications for data transformation • Data Life Cycle Overview • Elements of Data • Data Pipelines Introduction	• Why is data transformation a key step in modern organizations' success? Discuss examples. • Discuss: Data Analytics, Data Engineering, Data ops, and Data Science • Critical Elements of Cloud Data Ecosystem • Compare the top cloud data offerings. • Hands-on labs introduction!	Set up Azure Labs account
3	**09/11**	• Demystifying data jargons • Data Architecture and Patterns	• Connecting Business outcomes to technology • Overview of Modern Big Data Architectures and Patterns: Data Lake, Lakehouse, Fabric and so on… • Use cases and how it shapes data	Complete Labs – Azure SkillLabs Duly Submit

			• How the Big data shaped business models and enterprises • HBR case studies and how to approach them	screenshots of every module completion on the learning portal
4	**9/18**	• Data storage options • Ingesting and preparing the data	• Storage - Critical Scenarios and Qualification Criteria • Types of data ingestions • Ingestions tools and technologies • Questions to answer while making Ingestion and processing decisions	Individual Assignment Submission (Video Presentation) on eLearning Portal
5	**09/25**	Case study 1 Discussion	• Read and Debate: HBR: Case 1 (group) • Check eLearning for case details	Complete Labs – Azure SkillLabs Duly Submit screenshots of every module completion on the learning portal
6	**10/02**	• Data Quality, Lineage • Data Wrangling Basics Streaming data: Corner cases • Case study discussion	• Data Wrangling Discussion • Real time data processing • Case Study 2 Discussion: Building enterprise data with Cloud Data Platform like AWS or Azure (No prep required)	Complete all labs - Azure SkillLabs Duly Submit screenshots of every module completion on the learning portal
7	**10/9**	Snowflake Data Platform Introduction	• Introduction to Snowflake Platform Complete first lab with Snowflake in the class	
8	**10/16**	Case study 3 Discussion- Uber Pickup Efficiency	• Read and Debate: HBR: Case 3 (group) Check eLearning for case details • Snowflake Storage Layer • Columnar Data Detailed	Finish all Azure Labs (Mandatory labs)

9	**10/23**	• Guest Lecture Snowflake detailed – Storage Tier	• Guest Lecture: Industry Expert • Diving deep into Snowflake – Compute Tier • Diving deep into Snowflake – Cloud Service Tier	HBR case study slides submission Snowflake labs submission (Sunday eod) Duly Submit screenshots of every module completion on the learning portal
10	**10/30**	Case study 4 Discussion	• Read and Debate: HBR: Case 4 (group) Check eLearning for case details Unique architectural concepts and features of Snowflake	Snowflake labs submission. (Sunday eod) Duly Submit screenshots of every module completion on the learning portal
11	**11/6**	Introduction to Machine learning, Gen AI, Agentic AI	• Why data is critical for ML projects? • ML data life cycle • Core Concepts: Natural Language Processing	HBR case study slides submission Snowflake laba submission (Sunday eod) Duly Submit screenshots of every module completion on the learning portal
12	**11/13**	• Gen AI: Industry Adoption • Few case studies regarding use of AI and related challenges	• Explore LLM models: GPT, Meta Llama and other Smalls LLMs • Case Study 5 Discussion – AirBnb and Drishti Check eLearning for case details	Snowflake lab submission Duly Submit screenshots of every module completion on the learning portal

13	**11/20**	• AirBnb and Drishti AI case discussion	• Case Study 5 Discussion – AirBnb and Drishti Check eLearning for case details	No case study deliverables but only in class discussion Snowflake labs submission (Sunday eod) Duly Submit screenshots of every module completion on the learning portal
14	**11/27**	**Fall and Thanksgiving Break: Nov 25- Nov 30, 2025**		
15	12/4	Group Project Presentations	All groups (In class)	Submit Presentation slides, paper, recordings, if any.
15	12/1-12/4	Final Exam	Exams will be held at the test center	

Projects, Labs and Assignment Guidelines

- The instructor will form teams of 6-8 students for the project(s).
- Team deliverables will be submitted by one (1) student from each team. Each member of the team will receive the same score based on the deliverable submitted unless there is a discrepancy in teamwork and effort spent. Individual scores may also get impacted if a team member is not present without prior intimation and approval by the team and the instructor.
- Individual assignment scores are for individual students and will be assessed accordingly.
- Deliverables are due at 11:59 pm on the due date shown on the assignment folder/calendar on eLearning.
- All assignments are due as per the instructions and dates provided on eLearning portal. I do not accept late assignments unless prior arrangements have been made with the instructor. Late deliverable submissions will be assessed a 20% deduction for each day the deliverable submission is late.

- Deliverables (group and individual assignments) will not be accepted 5 days after the due date. Score will be zero.
- Information related to assignments, labs, and projects will be posted in eLearning as they are assigned. Labs, assignment and project-specific scoring criteria (rubric) will be included with the assignment/project instructions.
- Each student is expected to do their own work on the individual assignment. Working on assignment together or in groups, copying another student's work or computer files, or having another person do your work is scholastic dishonesty and will be addressed via the academic dishonesty processes of the University.
- Written assignments must adhere to the APA style guide of formatting, citing, and referencing.
- Final presentation/ exam and quizzes (if any) will be administered in the classroom where we usually meet and during the same times as your lectures. Test center rules will be strictly observed, including taking breaks after the exam has started. No unscheduled breaks will be permitted. More details will be shared as we approach the exam dates. If the university guidelines change during the time exams are scheduled, adjustments may be made and communicated to the students.
- The exam may consist of multiple choice, multiple-answer, fill-in-the-blank, scenario based or short essay questions. The final exam is not comprehensive.
- No extra credit assignments are available. Absolutely no exceptions here.
- General grading criteria can be found in eLearning. Assignment specific grading criteria will be included with the assignment instructions.
- All group assignments/Case Studies will need to be submitted via eLearning. I do not accept assignments via email. If you submit an incorrect assignment or need to resubmit your assignment in eLearning you will be allowed to resubmit two more times (total three attempts), as long as it is before the due date. You will be granted three attempts to resubmit the assignment before the due date and this will be automatically available to you in e-learning when the assignment is created by the instructor. Peer evaluations for group projects shall be submitted only once. Late assignments will be eligible for 20% score penalty /day for the specific assignment. Deliverables (group and individual assignments) will not be accepted 5 days after the due date. Score will be zero.

Grading Policy

This course will feature a mix of activities and written and video assignments that may be in class or on campus. Homework will include readings from the text, assignments, and activities that usually require the student to complete some type of task. The instructor will provide detailed instructions as well as the grading criteria for each assignment. Please consult the course schedule for deadlines. Please be advised that if you have a question or issue with your assignment grade, your entire assignment is subject to re-grading, and it could lead to addition or deduction of points.

Grading Scheme

More details will be provided on the eLearning

Grading Milestones	Points	% Weightage
Assignment Milestone 1 & 2	**150**	**15%**
Hands-on Labs	**150**	**15%**
HBR Case Studies (Group)	**200**	**20%**
Project Presentation & Paper (Group)	**200**	**20%**

Attendance	**70**	**7%**
Final Exam	**100**	**10%**
Group Participation (Project and HBR)	**80**	**8%**
Class Participation	**50**	**5%**
Total	**1000**	**100.00%**

The following table provides more details on grade ranges:

Final Point Total	Letter Grade
A	95.00-100.00
A-	91.00-94.99
B+	87.00-90.99
B	83.00-86.99
B-	80.00-82.99
C+	77.00-79.99
C	73.00-76.99
F	72.99 & below

Course Policies

eLearning will be used for class content (e.g., class slides, assignment descriptions, etc) and the recording of grades. Slides will be posted in before the class is held. Class announcements (e.g., change in assignment dates) will be sent to the student email on record in eLearning via a class announcement or course message. It is the students' responsibility to regularly check their email accounts and announcements/ course messages on eLearning.

Gen AI/AI tools usage policy:

Students are not permitted to use any AI tools for assignments, quizzes, and exams unless explicitly instructed to do so by the instructor. If AI tools are allowed, the instructor will specify which tool to use and provide clear directions for its application.
Each Assignment that permits AI use will include an AI Disclosure section. Your submission will be graded based on the following criteria:

- Completeness of Prompts
- Explanation of Integration
- Verification Steps
- Citation Accuracy
- Reflection Quality.

Writing assistants (such as Grammarly) and other generative AI should not be used to write, paraphrase, or change the style or composition of your writing. They may be used to proofread and edit your writing to improve your writing.
If you use AI Writing Tools in preparing your work, you should add this statement into your submitted work: The author(s) also acknowledge using various AI-based proofreading tools (specify which you used) to refine their writing. The authors declare that these tools have not been used to generate arguments or write content. These tools have been used to [complete the sentence to describe how you used the tools].

Unauthorized AI Use will be considered misconduct by the student and will be reported. (See Student Code of Conduct - UTDSP5003). Also refer: https://policy.utdallas.edu/utdsp5017 for Gen AI policy by UT-Dallas.

Class Materials

The instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course; however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class or uploaded to other online environments except to implement an approved Accessibility Resource Center accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Instructor Response Policy: The instructor will respond to all student inquiries (emails, voice messages, etc.) within 48 hours (excluding holidays and weekends).

Class Participation/ Attendance Policy

This class incorporates a lot of in-class activities and discussions. It is highly recommended that you attend the lectures to gain the most out of the class. If you participate in the in-class activities, your understanding of the topic under discussion will be greatly enhanced.
Regular class participation is expected. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Class Recordings

The course emphasizes in-class learning. However, the instructor may record meetings of this course. These recordings will be made available to all students registered for this class if the intent is to supplement the classroom experience. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law.

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student

AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Late Work: All assignments are due as per the timelines provided on the eLearning (not after), on the specified date. I do not accept late assignments unless prior arrangements have been made with me. No exceptions. No extra credit or make-up work will be given. If there are genuine/ extenuating circumstances, I will make exceptions on a case-to-case basis.

Academic Integrity: The University is committed to academic excellence and expects academic honesty from all members of the University community and believes that it is essential for academic excellence and integrity. Academic honesty includes adherence to guidelines established by the instructor in a particular course for both individual and group work. It prohibits representing the work of others to be one's own (plagiarism); receiving unauthorized aid on an assignment (cheating); and using similar papers or other work products to fulfill the obligations of different classes without the instructor's permission. Penalties for academic dishonesty may include a grade of "F" on the work in question or for the course. In addition, any student engaged in academic dishonesty will be subject to disciplinary action. Please refer to the General Polices website (see below) for detailed information pertaining to academic dishonesty, including procedures for determining disciplinary action.

WORKING TOGETHER on Individual Assignments: This course will have a considerable amount of solving interesting project scenarios. Each student is expected to do their own work on the "individual" assignments. Copying another student's work (computer files) or having another person do your work is scholastic dishonesty and will be dealt with accordingly.

Makeup Exams: I do not give make-up exams unless a student presents convincing proof of conditions that prevent him/her from taking the exam at the scheduled time.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

Accommodations for Students with Disabilities

Please review the section within the UT Dallas Syllabus Policies and Procedures webpage.

Academic Support Resources

Please visit the Academic Support Resources page to view the University's academic support resources for all students.

UT Dallas Syllabus Policies and Procedures

Please visit the Syllabus Policies page to view the University's policies and procedures segment of the course syllabus.

Please review the catalog sections regarding the pass/fail grading option and withdrawal from class.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.