



Course ITSS/BUAN 4351
Foundations of Business Intelligence
Professor Timothy Stephens
Term Spring 2026
Meetings Tuesday, 1:00pm, JSOM 1.117

PROFESSOR'S CONTACT INFORMATION

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| Office location | JSOM 3.610 Phone: 972-883-5063 |
| Email address | timothy.stephens@utdallas.edu |
| Office hours | TBD |
| Teaching Assistant | TBD |
| Other information | <p>E-mail is recommended for ALL communications during the semester, using <u>UTD email system</u> for incoming and outgoing messages. Using your personal email address is STRONGLY discouraged, due to security and spam blocking concerns.</p> <p>eLearning will be used to post, announcements, assignments, and grades.</p> <p>By the very nature of the class, you will be required to bring your web-enabled computer to every class. Since we will be using Citrix Gateway, Most Apple and Microsoft devices will be acceptable; however, Android devices are questionable, and cell phones will not work at all with the system access requirements. Please contact the instructor as soon as possible if you do not have access to the required type of device.</p> |

GENERAL COURSE INFORMATION

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| Pre-requisites, Co-requisites, & Other Restrictions | Prerequisites: ITSS 3300 and ITSS 4300 and (MATH 1326 or MATH 2414 or MATH 2419 or OPRE 3340) and (CS 2305 or MATH 2418 or MATH 2333 or OPRE 3333). |
| Course Description | Students are introduced to foundational business intelligence (BI) concepts and explore the theory and practice of data warehouses for enterprises. BI concepts including data mart schemas, ETL, OLAP, cubes and reporting will be covered. The course will also examine the components of an enterprise data warehouse, extract, cleanse, consolidate, and transform heterogeneous data into a single enterprise data warehouse, and run queries using a data warehouse. (3 semester hours) |
| Learning Outcomes and Objectives | <ol style="list-style-type: none">1. Students will be able to describe architecture and methods for storage and provision of enterprise data.2. Students will be able to apply the ETL process to transform data into an enterprise data warehouse.3. Students will develop a competency for building business intelligence reporting.4. Students will demonstrate competency in data mining analysis. |
| Required Texts & Materials | <i>Business Intelligence, Simplified</i> , Shekhar, 2025, Kendall Hunt Publishing. ISBN Print: 979-8-3851-9136-9 e-book: 979-8-3851-9137-6 |
| Course Format | <ul style="list-style-type: none">• Classes will include a mixture of lectures, case discussions, lab lessons, guest lectures, and possibly group presentations.<ul style="list-style-type: none">◦ The lecture notes and readings articles will provide the basis for lectures on various business analytics topics and will be available electronically via eLearning. (Lecture notes are meant only for students who register for this course and will not be provided to students who are not registered.) |

Course Modality

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| Instructional Mode | <p>The class will be held in the traditional modality, which is synchronous, face-to-face interaction in the classroom. Some hands-on sessions may be presented virtually.</p> <p>For more information on instructional modes, visit https://coursebook.utdallas.edu/modalities</p> |
| eLearning and Course Platforms | <p>This course can be accessed using your UT Dallas NetID account on the eLearning website. Please see the course access and navigation section of the Getting Started with eLearning</p> |

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| | <p>webpage for more information. To become familiar with the eLearning tool, please see the Student eLearning Tutorials webpage.</p> <p>The course will utilize the following platforms:</p> <ul style="list-style-type: none"> • Announcements, written lecture materials, assignments and grades will be posted on the course's eLearning site. It is the students' responsibility to regularly check their UTD email accounts and the eLearning page for this course. • Microsoft Teams will be utilized for lectures and other live communications. • Recorded (and annotated) lectures and other communications will be available on Microsoft Teams. <p>Active links to Teams will be available on the eLearning web site.</p> <p>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.</p> <p>UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The eLearning Support Center includes a toll-free telephone number for immediate assistance: (1-866-588-3192), email request service, and an online chat service.</p> |
| <p>Technical Requirements and Resources</p> | <p>Beginning in Spring 2020, undergraduate and graduate students will be required to have their own laptop for their classes. While JSOM Technology and Facilities services does not support student laptops, the UTD Tech store can help. The UTD Tech store is located in the Visitor's Center, or you can reach them at 972-883-6500.</p> <p>For non-traditional modalities, webcams are preferred during lectures. If taking a proctored exam remotely, a webcam will be required.</p> <p>Distance Learning Student Resources - Online students have access to resources including the McDermott Library, Academic Advising, The Office of Student AccessAbility, and many others. Please see the eLearning Current Students webpage for more information.</p> |
| <p>Server Unavailability or Other Technical Difficulties</p> | <p>The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide an appropriate accommodation based on the situation. Students should immediately report any problems to the instructor and also contact the online eLearning Help Desk. The instructor and the eLearning Help Desk will work with the student to resolve any issues at the earliest possible time.</p> |
| <p>Class Participation</p> | <p>Regular class participation is expected regardless of course modality. 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.</p> |
| <p>Class Recordings and Materials</p> | <p>The instructor may record meetings of this course. Any recordings will be available to all students registered for this class as they are intended to supplement the classroom experience. 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. 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. Failure to comply with these University requirements is a violation of the Student Code of Conduct.</p> <p>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 Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the Student Code of Conduct.</p> |

**ITSS/BUAN 4351 – Foundations of Business Analytics
TENTATIVE CALENDAR, ASSIGNMENTS and KEY DATES¹**

Spring 2026

Tuesdays, 1:00pm: JSOM 1.117

| Date | Topics | Activities and Assignments² |
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| Jan 20 | Course Introduction | Chapter 1 – Why BI, of all things? |
| Jan 28 – Feb 11 | Module 1 – Describe Business Question: <ul style="list-style-type: none"> • 7 W's • Business Decisions and Communications • Forces of Analytics | Chapter 5 – What, Why, When? Assignment 1 |
| Feb 27 – Mar 3 | Module 2 – Data and Inferences <ul style="list-style-type: none"> • Data Types • ETL Concepts • Metadata Concepts • Data Management • OLTP/OLAP Concepts | Chapter 2 – Warehouse Chapter 3 - ETL Assignment 2 |
| Mar 9-13 | Exam 1 Testing Center and Take-Home | Take-Home/Practical |
| Mar 16-22 | SPRING BREAK – No Class | |
| Mar 24 – Apr 7 | Module 3 – Application of Tools and Methods: <ul style="list-style-type: none"> • Database Review (SQL, NoSQL) • BI Concepts • ETL Applications • OLAP Applications | Chapter 6 – Data Mining Assignment 3 Introduction of Group Project |
| Apr 14 | Module 4 – Artificial Intelligence | Chapter 8 – AI in BI |
| Apr 21 - 28 | Module 5 – Effective Communications: <ul style="list-style-type: none"> • Business Decisions and Communications • Data Visualization Introduction – Excel, Tableau, Balanced Scorecard, Power BI, et al | Chapter 4 - Reporting Assignment 4 |
| May 4 - 8 | Exam 2 Testing Center and Take-Home (No Cumulative Final) | Take-Home/Practical Final Group Project Due |
| May 5 | Group Project Presentations <ul style="list-style-type: none"> • Team Presentations | Oral and Written Project Presentations |

¹ Any changes to this schedule will be announced in class and through eLearning. It is the student's responsibility to keep track of them.

² Assignments will be posted in eLearning, typically 1 week before they are due.

POLICIES

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| <p>Grading</p> | <p>This course will feature a mix of activities and written assignments that may be in class or on campus. Homework will include hands-on development, assignments, and activities that usually require the student to complete some type of task. Projects will also require outside research. The instructor will provide detailed instructions as well as the grading criteria for each assignment. Please consult the course schedule for deadlines.</p> <p>Your grade will be based on the total score of the following:</p> <ul style="list-style-type: none"> • 2 Exams: (25% each = 50%). The exams are not cumulative, but will have 2 parts: <ul style="list-style-type: none"> ○ Concepts ○ Practical Applications (take home) • Assignments, Discussions, and Exercises: (25%) • Group Project (15%) • Attendance, Participation, and Quizzes: (10%). <p>Resulting in a letter grade of:</p> <ul style="list-style-type: none"> • 93% and above = A • 90%-92.9% = A- • 87-89.9 % = B+ • 83-86.9 points = B • 80-82.9 points = B- • 77-79.9 points = C+ • 73-76.9 points = C • 70-72.9 points = C- • Below 70 = F <p>All grades will be posted as available, in eLearning throughout the term.</p> |
| <p>Exams</p> | <p>Exams are scheduled well in advance. Missing an exam results in a score of zero. Make-up exams will be given only for <u>justified</u> situations; discuss it with the instructor BEFORE the scheduled exam. If you contact the instructor after the exam, it is considered missing the exam, and no credit will be given for missed exams.</p> |
| <p>eLearning</p> | <p>eLearning will be used for all class content (e.g., class slides and assignment descriptions), exams, and the recording of grades. Lecture slides will be posted before class is held. Class announcements (e.g., change in assignment dates) will be sent to the student email on record in eLearning, and posted in eLearning. It is the students' responsibility to regularly check their UTD email accounts and the eLearning page for this course.</p> |
| <p>Class Preparation, Assignments and Projects</p> | <p>Assignments will generally be posted well in advance of their due date, depending on our progress in the class. Assignment specific grading criteria will be included with the assignment description and instructions.</p> <p>All assignments will be submitted for grading into eLearning before the due date and time posted. The assignment posting link in eLearning will not be available after the due date and time.</p> <p><u>NEITHER LATE SUBMISSIONS NOR HOMEWORK ASSIGNMENTS SENT BY EMAIL WILL BE ACCEPTED AND THUS WILL NOT BE GRADED</u> unless prior arrangements are made and verified with the instructor. There will be no make-up assignments, nor considerations for last-minute technical difficulties preventing submissions to eLearning, so plan ahead. Students may submit (and resubmit, if before the due date) interim work into eLearning, to ensure their work will be graded.</p> <p>Written assignments must adhere to the APA style guide of formatting, citing, and referencing.</p> <p>DO NOT CHEAT and DO NOT PLAGIARIZE. All individual assignments and exams are to be individual efforts. You may collaborate with other students, or to discuss homework or assignments with other students prior to submission. Copying of homework, assignments, or exams, in whole or in part, from other students or from assignments from previous semesters will be considered an act of academic dishonesty.</p> <p>You are encouraged to ask questions, raise issues, and make observations about homework; please be advised that if you have a question or issue with your assignment grade, your entire assignment is subject to re-review (re-grading) which may or may not result in additional point deductions.</p> |

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| <p style="text-align: center;">Class Attendance and Preparation</p> | <p>ATTENDANCE IS EXPECTED. Looking at previous experiences with this and other classes, tardiness and absence are the main contributing factors to poor and failing grades. Students are expected to attend all classes to achieve maximum success. Attendance will be taken periodically and used in consideration for the Participation grade; however, this grade will also reflect the instructor's judgment of the value of contributions to class discussion. There is no makeup for missed in-class assignments and/or quizzes.</p> <p>Students are encouraged to actively participate in class discussions.</p> <p>Students are expected to bring a computer to every class.</p> |
| <p style="text-align: center;">Email Use</p> | <p>The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. <u>The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account.</u> This allows the university to maintain a high degree of confidence in the identity of all individuals corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.</p> |
| <p style="text-align: center;">Classroom Citizenship</p> | <ol style="list-style-type: none"> i. <u>Class begins on time.</u> Please maintain class decorum and be respectful towards fellow students in the class. If you have a doubt or misunderstanding regarding course work feel free to discuss it with your instructor. ii. <u>Using your phone during class is not permitted and it is rude.</u> Keep it on silent at all times and away from your desk. No texting. Offenders will be asked to turn off their phones. If this is a recurring problem, students will be asked to give their phones to the instructor which will be returned at the end of the class session. No pictures or video during class time, unless approved by the instructor -- it distracts everyone, and it is a violation of privacy. iii. <u>Use of your computer may be required at times during the class and is allowed as long as it does not interrupt the class or distracting other students in the classroom.</u> If such situation occurs, the first time you will be asked to turn off your computer. Recurrent offenders will be asked to leave the classroom. iv. <u>Use of tablets is allowed,</u> as long as they are used to read the textbook, or the class notes. v. <u>These rules will be enforced.</u> |
| <p style="text-align: center;">Comet Creed</p> | <p>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:</p> <p>"As a Comet, I pledge honesty, integrity, and service in all that I do."</p> |
| <p style="text-align: center;">Special Assistance</p> | <p>For help you succeed in the class, the following resources are available: Your instructor, TA for the Class, the Student Success Center (MC1.302), the Student Counseling Center (SSB 4.600) and the New Student Programs Office (SSB 3.600) among other resources. Of course, a myriad of free resources are available on the internet.</p> |
| <p style="text-align: center;">Academic Support Resources</p> | <p>The information contained in the following link lists the University's academic support resources for all students.</p> <p>Please go to http://go.utdallas.edu/academic-support-resources.</p> |
| <p style="text-align: center;">UT Dallas Syllabus Policies and Procedures</p> | <p>The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.</p> <p>Please go to http://go.utdallas.edu/syllabus-policies for these policies.</p> |