



UT Tyler
THE UNIVERSITY OF TEXAS AT TYLER

SOULES COLLEGE OF BUSINESS

Fall 2023

Course number:	ACCT 5391.060
Course title:	Data Analytics for Accounting
Course format:	Face-to-face
Instructor:	Sai Harsha Katuri, Ph.D. Assistant Professor of Accounting
Office:	Soules College of Business, 350.06
Phone:	903-565-5893
E-mail:	skaturi@uttyler.edu (Preferred method of contact)
Class time:	6:00 pm - 8:45 pm on Tuesdays
Location:	COB 121
Office hours:	Monday 5 – 6:30 pm & Friday 3:30 - 5 pm. Other times by appointment. Virtual office hours are available via Zoom.
Teaching method:	Lectures, class discussions, projects and analytical exercises

1 Course overview

In today's data-driven world, the ability to analyze and interpret vast amounts of information is paramount. This comprehensive course, titled "Data Analytics for Accounting" is designed to provide you with a broad understanding of the multifaceted field of data analytics. The course covers essential topics ranging from an overview of data analytics to practical applications in accounting. Beginning with a foundational understanding of data analytics, you will explore the intricacies of data acquisition, dimensional data modeling, and data extraction, transformation, and loading (ETL). Then you will delve into advanced techniques such as slicing and dicing, data visualization, and the creation of reports and dashboards. The course also includes an introduction to data mining, unsupervised machine learning, time series analysis, predictive machine learning, and real-world analytics practices.

As a part of the course, you are required to complete a project which will provide hands-on experience and facilitate a deeper understanding of the concepts taught. Emphasizing high-level concepts, this course offers a wide breadth of knowledge, equipping you with the essential skills and understanding

needed to excel in the ever-evolving field of data analytics.

2 Student Learning Outcomes

The course aims to provide you with a comprehensive understanding of data analytics, with hands-on experience in using Alteryx. By the end of the course, you should be able to apply these concepts and techniques to real-world problems and make informed decisions based on data analysis. On successful completion of the course, you will be able to:

- Understand the fundamental concepts and importance of data analytics. Recognize the role of data analytics in various industries. Identify the key tools and platforms, with a focus on Alteryx.
- Learn the methods of data collection from various sources. Understand data quality and preparation using Alteryx. Recognize the ethical considerations in data acquisition.
- Understand the principles of dimensional data modeling. Create and manipulate dimensional models using Alteryx. Analyze the role of dimensional data in analytics.
- Learn the ETL process and its importance. Perform data extraction, transformation, and loading using Alteryx. Understand the challenges and solutions in ETL.
- Understand the concepts of slicing and dicing in data analysis. Apply slicing and dicing techniques using Alteryx. Analyze multidimensional data effectively.
- Learn the principles of data visualization. Create compelling visualizations using Alteryx. Interpret and communicate findings through visual means.
- Understand the importance of reporting in data analytics. Design and create interactive dashboards using Alteryx.
- Understand the concepts and techniques of data mining. Apply data mining algorithms using Alteryx. Analyze patterns and make predictions based on data mining.
- Learn the principles of unsupervised machine learning. Implement clustering and association algorithms using Alteryx. Evaluate the performance of unsupervised learning models.
- Understand the fundamentals of time series analysis. Apply time series forecasting techniques using Alteryx. Analyze and interpret time series data.
- Learn the principles of predictive machine learning. Build predictive models using Alteryx. Evaluate and optimize predictive models.

3 Course Materials

3.1 Canvas

- Lecture notes and slides will be posted on Canvas
- Supplementary videos and links to additional videos will be posted on Canvas
- Class announcements will be sent via Canvas and you are responsible for reading these announcements (please make sure your Canvas settings are enabled for receiving emails)

3.2 Recommended Textbooks and Readings

Data analytics represents a highly dynamic and rapidly evolving field, characterized by continuous innovation and the emergence of new methodologies, tools, and techniques. This constant state of flux presents a unique challenge in the realm of educational resources, as there is no single textbook that can comprehensively cover all the multifaceted topics within the discipline. The rapid pace of software development further compounds this challenge. Many textbooks that were once considered authoritative and comprehensive have become outdated due to changes in software versions. These updates often introduce new interfaces and functionalities, rendering previous instructional materials obsolete or misaligned with the current state of the technology. Considering these complexities, I am committed to providing you with the most relevant and up-to-date study materials for each class in our course. Our curriculum has been thoughtfully structured around the book authored by Kale and Jones. For those students who are seeking additional practice or wish to delve deeper into specific areas of interest, the book by Dzurani et al. serves as an excellent supplementary resource.

1. Data and Analytics in Accounting: An Integrated Approach, 1st Edition - Ann C. Dzurani, Guido Geerts, Margarita Lenk ISBN: 978-1-119-72315-8
2. Practical Analytics, 2nd Edition 2020, Nitin Kalé & Nancy Jones, Epistemy Press (epistemypress.com) ISBN: 978-0-9972092-2-8.

3.3 Other Useful Resources

- Link to create a student account <https://offers.sheerid.com/alteryx/student/>
 - You need to verify before getting a license
- Required minimum system requirements to install Alteryx
 - <https://help.alteryx.com/20231/designer/system-requirements>
- Link to Alteryx certifications
 - <https://community.alteryx.com/t5/Certification/bd-p/product-certification>
- Videos and interactive lessons offered by Alteryx
 - <https://community.alteryx.com/t5/Maveryx-Academy/ct-p/alteryx-academy>
 - Check their learning paths and Weekly challenges
- More links will be provided during the classes

3.4 Software requirements

Throughout the duration of this course, we will be utilizing Alteryx, a leading data analytics platform, as a central tool for various assignments and projects. As such, students are expected to have Alteryx installed on their personal laptops to ensure seamless access and engagement with the course material.

Please be aware that Alteryx has specific minimum configuration requirements that your laptop must meet for the software to run effectively (<https://help.alteryx.com/20231/designer/system-requirements>). If your laptop does not meet these requirements, arrangements can be made to have Alteryx installed on a computer in COB 121. This will ensure that you have access to the necessary resources to fully participate in the course.

It is important to note that Alteryx is not compatible with Mac operating systems. If you are a Mac user, please refer to the alternate procedure provided for guidance on how to access Alteryx (<https://community.alteryx.com/t5/Alteryx-Designer-Desktop-Knowledge-Base/Install-Alteryx-for-Mac/ta-p/87568>). Alternatively, you may utilize a computer within COB 121, where Alteryx is available and configured to meet the course's needs.

Your compliance with these requirements is essential to your success in this course, as Alteryx will be a fundamental component of our learning experience. Should you encounter any difficulties or have any questions regarding the installation or use of Alteryx, please do not hesitate to reach out for assistance. Our goal is to ensure that all students have the necessary tools and support to excel in this course.

4 Classroom policies

- Class starts promptly at the assigned time. If you have a problem that prohibits you from arriving to class on time, please inform me as soon as possible. If this is a continuing issue, please select a seat near the entrance to minimize the disruptions to the classroom.
- Inform me in advance if you must leave the class before the scheduled ending time.
- Electronic devices (cell phones, pagers, iPods, etc.) must be deactivated during class. You may use your computer in class but texting and surfing the internet in class is not allowed.
- Courtesy to the instructor and fellow students is expected. Open discussion is encouraged in the classroom, but derogatory remarks and profanity will not be allowed in the classroom.
- Dishonesty will not be tolerated in this class. Violations of accepted standards of conduct will result in the imposition of the penalties allowed by the University.
- In an accounting class, missing just one class can cause you to fall behind! If you are absent, it is your responsibility to obtain materials and class notes. Lengthy instructions will not be repeated on a one-to-one basis.

4.1 Academic dishonesty statement

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrates a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements acts or omissions related to applications for enrollment of the award of a degree, and/or the submission, as one's own work of material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

University regulations require the instructor to report all suspected cases of academic dishonesty to the Dean of Students for disciplinary action. In the event disciplinary measures are imposed on the student, it becomes part of the student's official school records. Also please note that the handbook obligates you to report all observed cases of academic dishonesty to the instructor.

5 Content outline and schedule

	Date	Chapters	Homework
1	08/22/2023	Chapter 1: Data analytics overview	<ul style="list-style-type: none"> Complete academic portfolio website Introduce yourself on discussion board Share link on discussion board
2	08/29/2023	Chapter 2: Data acquisition	<ul style="list-style-type: none"> Complete MC – Foundation (Due 5:00 pm Sep 5th) Share badge on portfolio website Census date – Sep 1st
3	09/05/2023	Chapter 3: Dimensional data modeling	<ul style="list-style-type: none"> Complete MC – Core – General knowledge (Due 5:00 pm Sep 12th) Share badge on portfolio website
4	09/12/2023	Chapter 4: Data extraction, transformation, and loading	<ul style="list-style-type: none"> Complete MC – Core – Data Preparation (Due 5:00 pm Sep 19th) Share badge on portfolio website Oct 30th – Last day to drop course with W
5	09/19/2023	Chapter 5: Slicing and dicing	<ul style="list-style-type: none"> Complete MC – Core – Data Manipulation (Due 5:00 pm Sep 26th) Share badge on portfolio website
6	09/26/2023	Chapter 6: Data visualization	<ul style="list-style-type: none"> Complete MC – Core – Data Transformation (Due 5:00 pm Oct 3rd) Share badge on portfolio website
7	10/03/2023	Chapter 7: Reports and dashboards	<ul style="list-style-type: none"> Complete Core – Certification (Due 5:00 pm Oct 10th) Share badge on portfolio website Project group meeting with instructor
8	10/10/2023	Project Discussion (<i>Pre-requisite: Completion of micro-credentials</i>)	<ul style="list-style-type: none"> Present your project ideas in the class Submit a detailed project plan which includes the scope of the project and desired outcomes (Due 5:00 pm Oct 17th)
9	10/17/2023	Chapter 8: Data mining	
10	10/24/2023	Chapter 9: Unsupervised machine learning	
11	10/31/2023	Chapter 10: Time series analysis and forecasting	<ul style="list-style-type: none"> Project update 1 (Due 5:00 pm Nov 7th)
12	11/07/2023	Chapter 11: Predictive machine learning	<ul style="list-style-type: none"> MC – Machine Learning (Due 5:00 pm Nov 14th) Share badge on portfolio website
13	11/14/2023	Chapter 12: Analytics in practice	<ul style="list-style-type: none"> Project update 2 (Due 5:00 pm Nov 18th)
14	11/27/2023	Project Presentation (<i>Exact time and venue to be announced</i>)	<ul style="list-style-type: none"> Project poster and video to be approved before project presentation (Date to be decided)
15	Week starting Dec 4 th	Exam (<i>Administered as per UTT final exam schedule TBA</i>)	
<p>NOTE: This class schedule is subject to revisions by the instructor if it is deemed necessary as a responsive action to class progress and time constraints. Any due date or assignment/project is subject to change by the professor. Any changes will be announced in class and via Canvas announcement.</p>			

6 Student evaluation

A student's grade for the class will be based on performance in exams, project assignments, and the level of participation in class. Below are the weights for the different components that comprise your grade in class.

1. Certifications	40%
<i>MC - Foundation</i>	5
<i>MC – Core – General knowledge</i>	5
<i>MC – Core – Data Preparation</i>	5
<i>MC – Core – Data Manipulation</i>	5
<i>MC – Core – Data Transformation</i>	5
<i>Core - Certification</i>	10
<i>MC – Machine Learning</i>	5
2. Project (group)	35%
<i>Idea, execution, and documentation</i>	20
<i>Project poster presentation</i>	10
<i>Project pitch (Video)</i>	5
3. Final Exam	15%
4. Academic portfolio website	5%
5. Class participation	5%

6.1 Grading scale

Weighted Total Score	Grade
Greater than 90%	A
80% to less than 90%	B
70% to less than 80%	C
60% to less than 70%	D
Less than 60%	F

6.2 Certifications

In this course, we will be exploring the powerful data analytics capabilities of Alteryx, a leading platform used by professionals in the fields of accounting, finance, and business intelligence. As part of your evaluation, you will have the opportunity to take the Alteryx Designer micro credentials and Core certification exams at no cost. You will take six micro credentials and one core certification, a total of seven certifications. ***There is no hard deadline for completing these certifications. However, you will be assigned to a project group only after the successful completion of the first five micro credentials.***

These certifications are designed to validate your skills in preparing, blending, analyzing, and visualizing data. These certifications will assess your foundational understanding of data analytics within the Alteryx environment. By successfully completing these certifications, you will not only demonstrate your mastery of the course material but also gain a valuable credential that can enhance your professional profile. These certifications align with industry standards and are highly regarded by employers. They will provide you with practical skills that are directly applicable to real-world scenarios in accounting and finance. By integrating these certifications into our course, I aim to provide a comprehensive and hands-on learning experience that prepares you for both academic success and future career opportunities.

After completion of every certification, you will receive a badge and an email containing the distribution of your score. You are required to forward the email to me to get credit for the certification. You are also required to share the badge in your academic portfolio website.

6.3 Project

As a vital component of this course, you will engage in a group project (*3 students*), allowing for collaborative exploration and implementation of a chosen idea. Each group will select a concept and work together to bring it to fruition. You will prepare comprehensive documentation of the project, which is a mandatory requirement. This documentation will serve as a tangible record of the project's development and outcome. Furthermore, you will have the opportunity to present your project to the entire school during a poster session. You will also create a video summary of the project, offering a visual and concise overview of the project's key elements.

Finally, the completed project, along with all the deliverables, will be uploaded to GitHub and linked to each student's academic portfolio website. This integration ensures that the project is not only a valuable learning experience within the course but also a showcase of your skills and accomplishments that can be shared with future employers and academic pursuits. Following the completion of the project, you will be responsible for submitting a detailed report that outlines the individual contributions of each group member. Group members will be awarded marks based on their individual contributions. More details on deliverables and grading will be shared later.

6.4 Final exam

There will be a final examination at the conclusion of the course, designed to assess the students' comprehension and mastery of the theoretical concepts that have been taught throughout the duration of the class. This examination will serve as a critical component of the overall evaluation, reflecting the students' ability to synthesize and apply the knowledge they have acquired. The specific format of the exam, as well as the precise date on which it will be administered, will be formally announced in due course. Students are encouraged to prepare diligently, ensuring that they are well-versed in the material, as the exam will be comprehensive and will require a deep understanding of the subject matter.

- You must work independently and cannot work with others (including current or former students) when taking the exam.
- The exam will be administered at a pre-determined time. If you are unable to take an examination at the
- scheduled time for a valid reason, you must let me know at least one week before the examination period begins.
- If you miss the examination without informing me before the examination and/or without a legitimate reason, you will receive a score of zero for the examination.
- Dispute policy: If you wish to dispute the grade assigned to a quiz or an exam, you must do so IN WRITING within two weeks after the grades have been posted. You must include a specific rationale for why your answer is correct.

6.5 Academic portfolio website

As part of the course requirements, students are expected to maintain and update their individual academic profile websites. This process will involve the careful integration of various essential elements that reflect the students' achievements and learning throughout the course. Specifically, students must include links to Alteryx certifications they have completed. In addition to certifications, students are also required to provide access to the project deliverables developed during the group project. These deliverables include

Alteryx files, comprehensive documentation of the project, and video summary of the project. By incorporating these elements into their academic profile websites, students create a cohesive and professional showcase of their learning journey. This integration not only fulfills the course requirements but also provides a valuable resource that students can leverage in their future academic and professional endeavors.

6.6 Policies

- No make-up exams (except for documented medical or family emergencies) will be offered nor will there be any changes made to the Final Exam schedule, except as permitted by university rules.
- ***No extra credit assignments will be offered as it will be unfair to other students.***
- It is your responsibility to share your certification completion details with the instructor. ***Please forward the mail with the exam scores distribution on time. I will send an acknowledgement email.***

7 Student Resources, University Policies, and Additional Information

Links will be shared on Canvas.

Academic Integrity Guidelines

Each student has an obligation to act with honesty and integrity, and to respect the rights of others in carrying out all academic assignments. A student may be found to have violated this obligation and to have engaged in academic dishonesty if during or in connection with any academic evaluation, he or she:

1. Engages in any form of academic deceit;
2. Refers to materials or sources or employs devices (e.g., audio recorders, crib sheets, calculators, solution manuals, or commercial research services) not authorized by the instructor for use during the academic evaluation;
3. Possesses, buys, sells, obtains, or uses, without appropriate authorization, a copy of any materials intended to be used for academic evaluation in advance of its administration;
4. Acts as a substitute for another person in any academic evaluation;
5. Uses a substitute in any academic evaluation;
6. Depends on the aid of others to the extent that the work is not representative of the student's abilities, knowing or having good reason to believe that this aid is not authorized by the instructor.
7. Provides inappropriate aid to another person, knowing or having good reason to believe the aid is not authorized by the instructor;
8. Engages in plagiarism;
9. Permits his or her work to be submitted by another person without the instructor's authorization; or attempts to influence or change any academic evaluation or record for reasons having no relevance to class achievement.

Any student who is found to have violated these academic integrity guidelines will, at a minimum, receive a grade of zero on the assignment and at a maximum disciplined according to the University's guidelines.

By signing this document, I verify that I have read and understand these academic integrity guidelines as it applies to the exams and assignments. I will act with integrity during all course examinations and in the preparation of my assignments. I will seek the help of the instructor and/or the teaching assistant (and not the solutions of other students in the course) if I need help.

Printed Name: _____

Signature: _____

Date: _____

Course: ACCT 5391.060 – Data Analytics for Accounting – Fall 2023

PLEASE COMPLETE, SIGN AND RETURN TO INSTRUCTOR BY SUBMITTING IN CANVAS

FINAL GRADES

As stated in the syllabus, my final grade will be calculated as follows:

EVALUATION:

1. **The student's grade for the semester will determined by performance on the following**
– all course work is to be done individually unless otherwise stated.

1. Certifications	40%
<i>MC - Foundation</i>	5
<i>MC – Core – General knowledge</i>	5
<i>MC – Core – Data Preparation</i>	5
<i>MC – Core – Data Manipulation</i>	5
<i>MC – Core – Data Transformation</i>	5
<i>Core - Certification</i>	10
<i>MC – Machine Learning</i>	5
2. Project (group)	35%
<i>Idea, execution, and documentation</i>	20
<i>Project poster presentation</i>	10
<i>Project pitch (Video)</i>	5
3. Final Exam	15%
4. Academic portfolio website	5%
5. Class participation	5%

2. Grading scale:

Weighted Total Score	Grade
Greater than 90%	A
80% to less than 90%	B
70% to less than 80%	C
60% to less than 70%	D
Less than 60%	F

NOTE: Extra-credit assignments will not be available on an individual basis—no exceptions. Don't ask.

Canvas

Course materials are available on [Canvas](#). Announcements, grades, lecture slides, case projects, assignments, and activities are posted on Canvas. You should check Canvas regularly for updates. You are responsible for meeting deadlines and retrieving any information from Canvas. Grades posted on Canvas throughout the semester are individual grades for that assignment only and may **not be weighted correctly** but are posted for your review.

By signing this document, I verify that I have read and understand how my final grade will be calculated for this course. I also understand that individual grades posted in Canvas may not be weighted correctly and my final grade for the course will be weighted as stated in the Evaluation section of the syllabus and above.

Printed Name: _____

Signature: _____

Date: _____

Course: ACCT 5391.060 – Data Analytics for Accounting – Fall 2023

PLEASE COMPLETE, SIGN AND RETURN TO INSTRUCTOR BY SUBMITTING IN CANVAS