



Course Syllabus: Accounting Analytics  
Dillard College of Business Administration  
ACCT 5713-X20  
Spring 2024

**Contact Information**

**Instructor:** Dr. Lin Wang

**Office:** Dillard 277

**Office hours:** Monday/Wednesday 9:30 - 11 a.m., Monday 1:30 - 2:30 p.m.,  
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**Textbook & Instructional Materials**

1. Required: Connect Access and Textbook for Richardson, Teeter, and Terrell, Data Analytics for Accounting, 3rd edition, McGraw-Hill. ISBN: 9781265908591

Required digital materials for this course are part of the Courseware Access and Affordability Program at MSU Texas. Students are charged for required course materials on their student account with the Business Office. Any students who wish to opt-out of the Program and purchase the required course materials on their own must do so prior to 1/22/2024. Opt-out instructions are sent to students' official my.msutexas.edu email address after the first day of class. Please contact the MSU Bookstore if you have any questions about the opt-out process.

The [link](#) for completing the assignments online is:

<https://connect.mheducation.com/class/wang-acct-5713-spring-2024>

2. This is an online course. Students registered in this course are required to have access to technology (e.g., computers, webcam, software, broadband Internet connection) that allow them to access course materials and complete course assignments, activities, and exams. Respondus Lockdown Browser and a webcam must be installed on your computer for exams. No technical problem at a student's end will be considered for grading purposes. A Chromebook will NOT work for this class.

To access the software and databases needed for this course, you need access to the remote desktop from University of Arkansas with the username and password provided by the instructor. Remember to change your password after your first login. Please make sure to complete the setup of the remote desktop as soon as possible within the first week of class so you can start working on the labs. Instruction of the setup process is on D2L. If you run into difficulties in setting up the remote desktop access, you should request your free student license from Tableau so it won't disrupt your learning while

you resolve issues with the remote desktop. Computers in the on-campus labs may also have Tableau installed.

3. The Desire2Learn (D2L) website will be utilized extensively for this course. You must also register a "Preferred" email address in Banner/WebWorld. This should be an email address that you monitor closely, since I will communicate with you frequently via email.

### **Course Description**

This class examines accounting data using data science or data analytics tools to help answer accounting-related questions. The course focuses on developing data analysis skills using various tools utilized in contemporaneous accounting practice and will adapt to changes in the accounting environment. The course will utilize projects from a broad range of accounting and auditing questions.

### **Course Prerequisites**

Students must have completed ACCT 3043 and ACCT 4063.

### **Learning Goals**

Data has proliferated in business and managers and accountants need to understand the implications for decision-making and tap into the data to provide better insights into a firm/client/customer/supplier, etc. This course is intended to provide students with an understanding of data analytic thinking and terminology as well as hands-on experience with data analytics tools and techniques. Students should leave this course with the skills necessary to translate accounting and business problems into actionable proposals that they can competently present to managers and data scientists. While there will be some use of tools in this course, the focus of this class is on concepts, not algorithms or statistical math.

### **Course Policies**

#### **1. Expectation for Learners**

Learn is a verb, which means it is an action or activity. Learning requires action and effort on your part. As graduate students, you are expected to carefully follow the instructions to complete all the assigned readings, SmartBooks, homework, and labs each week independently. You must manage your time wisely so that you could complete the weekly assignments on time. Make plan to study on a daily basis so that you can make satisfactory progress. If you need to clarify something, please contact the instructor as soon as possible. When you work on the assignments, please first think actively and explore possible solutions **yourself** by reading the textbook, watching the video lectures/instructions on Connect, and doing the hands-on work. This learning experience is critical to develop your ability of quickly learning new skills/technology in the future in order to adapt to the changing world. You are always welcome to come to me for help if you couldn't figure things out. But you must have put in sufficient effort before asking for help.

#### **2. Instructor drop**

"An instructor may drop a student any time during the semester for excessive absences, for consistently failing to meet class assignments, for an indifferent attitude, or for a disruptive conduct." (Midwestern State University Student Handbook, p. 52)

### 3. Grading and Evaluation

Grading and evaluation for this course will be assigned as follows:

Table 1 Grading Scheme

	Points
Connect Labs (15*16 points)	240
Connect Homework (9*5 points)	45
Connect SmartBook (9*5 points)	45
Midterm Exam	100
Final Project and Presentation	70
Total Points	500

Your score in this class will be based on the points you earn out of the maximum 500 points. Minimum letter grades for this course will be assigned according to the table below.

Table 2 Letter Grade Assignment

Total Points Earned	Letter Grade
450 - 500	A
400 - 449	B
350 - 399	C
300 - 349	D
0 - 299	F

Extra credit: There is no extra credit for this class.

### 4. Exam Protocol

You will need:

- 1) Respondus Lockdown Browser and a webcam must be installed on your personal computer for exams. The webcam must be turned on throughout the whole exam period. You must complete the environment check prior to the exam.
- 2) A basic 4-function, non-programmable calculator with only a single line of display. You will not be permitted to use your cell phone as a calculator.
- 3) You can only have pencils, erasers, basic 4-function calculator on your table during the exam. If you need scrap paper, you must show it in front of the webcam during the environment check.

Failing to comply with exam policy will result in a grade of zero, including but not limited to: webcam turned off during any part of the exam, another person around you during the exam, failing to complete the environment check prior to the exam, having cellphone or anything else not listed above around you during the exam.

### Student Handbook

Refer to: [Student Handbook-2021-22](#)

## **Academic Misconduct Policy & Procedures**

Academic Dishonesty: Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not the individual's to whom credit is given).

In short, cheating, collusion, and plagiarism will not be tolerated. The term "cheating" generally means representing someone else's work as your own and includes, but is not limited to:

- 1) Copying someone's homework and turning it in as your own.
- 2) Soliciting answers from a fellow student before or during an exam or quiz.
- 3) Looking or glancing at another student's paper or answer sheet during an exam or quiz.
- 4) Removing a page or pages from an examination booklet before, during, or after an exam.
- 5) Using a cell phone, Internet watch, or programmable calculator during an exam.
- 6) Acquiring tests or other academic material belonging to a member of the university faculty or staff.

The minimum penalty is an "F" in this course and referral to the Dean of Students for disciplinary action, which may result in expulsion from the University.

Additional guidelines on procedures in these matters may be found in the Office of Student Conduct.

[Office of Student Conduct](#)

## **Assignments**

**Connect SmartBook Assignments (Pre-chapter assessments):** You have to complete assigned pre-chapter reading and practice on Connect SmartBook prior to listening to the video lecture over that chapter. Due dates are available on Connect. The pre-chapter assessments allow you to read the chapter in the most efficient and productive manner by specifically providing the most important material to you at the time you are studying. It is a personalized system and helps prepare you to learn at a higher level in class, participate and also prepares you for exams. Each pre-chapter assessment will take approximately 30 minutes, though there is no time limit, and it involves reading key areas of the chapter while demonstrating mastery of the concepts in Connect. Your score on these is based on completion and you are not scored lower for incorrect answers, you are only asked to work on each module until it is 100% complete. Late completion receives a grade of zero.

**Connect Homework Assignments:** All of your homework assignments are due via Connect by the date and time on Connect (may be different from the syllabus). Monitor due dates and times for homework carefully. Late completion will receive a grade of zero. You will have unlimited attempts at online homework problems, so submit your homework each time you work on it. Note that any website, including Connect, can go down from time to time. Do not wait until the last minute to submit your assignment.

**Connect Labs:** You will be given a set of tasks to complete, documenting your process and interpreting the results. These are great hands-on opportunities for you to practice data analytics. They are due via Connect by the date and time on Connect (may be different from the syllabus). Late completion will receive a grade of zero.

Most lab assignments have video instructions demonstrating how to complete the labs in addition to the text instructions. Please make sure to watch those videos before you start the labs. For all labs, your full name must be embedded in the screenshots. You can rename the file you work on to include your name or include a sticky note with your name before taking a screenshot. Screenshots that do not contain your name will have 50% of the points deducted.

**Late assignments will always receive zero points, no matter the reason.**

If you have technical problems with Connect, you need to contact customer service ((800) 331-5094 or website at <http://mpss.mhhe.com/>). The instructor will not be able to resolve any technical issues.

**Final Project Report and Presentation:** To show proficiency and understanding of data analytics techniques, 2-3 students will work in a team to evaluate accounting data using the IMPACT framework, develop a meaningful Tableau dashboard and written report, and create a formal presentation demonstrating the process and results. Each team must submit the following items for grading: the completed Tableau dashboard including the data analyzed, the project written report, and the video presentation (approximately 10-15 minutes).

### **Exam**

There will be a Midterm Exam. You will be given a 24-hour window to start and complete the exam. You can pick any time within the 24-hour window to complete the exam. Once started, the exam must be completed within one hour. You must make plans to take the exam during the designated 24-hour window. Neither make-up exam nor early/late exam will be given. Respondus Lockdown Browser and a webcam must be installed on your computer for exams. No technical problem at a student's end will be considered for grading purposes.

While taking an exam using LockDown Browser, please follow the these guidelines:

- Select a location where you won't be interrupted.
- Before starting the test, know how much time is available for it, and that you've allotted sufficient time to complete it.
- Turn off all mobile devices, phones, etc. and don't have them within reach.
- Clear your area of all external materials — books, papers, other computers, or devices.
- Remain at your desk or workstation for the duration of the test.
- LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted.

### **Services for Students with Disabilities**

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable accommodations to ensure equal opportunity for qualified persons with disabilities to participate in all educational, social, and recreational programs and activities. After notification of acceptance, students requiring accommodations should make application for such assistance through Disability Support Services, located in the

Clark Student Center, Room 168, (940) 397-4140. Current documentation of a disability will be required in order to provide appropriate services, and each request will be individually reviewed. For more details, please go to [Disability Support Services](#).

### **Syllabus Change Policy**

This syllabus is a guide for the course and is subject to change. Syllabus changes will be communicated in class and may or may not result in document changes. The number of homework assignments is subject to change. Assignment due dates and exam dates are also subject to change. The tentative schedule included with this syllabus will be changed as necessary to accommodate the progress of the class.

## Tentative Course Schedule

Week	Date	Topic	Reading / Lab Assignments	Estimated due date
1	1/15-1/21	<b>Chapter 1: Data Analytics for Accounting and Identifying the Questions</b> <ul style="list-style-type: none"> <li>• Demand for analytics</li> <li>• Overview of Accounting Analytics</li> <li>• IMPACT Cycle and Hands-on example</li> <li>• Tools: <b>Excel PivotTable, Tableau Prep, Tableau Desktop</b></li> </ul>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>• Set up remote desktop (instruction on D2L);</li> <li>• Submit SmartBook – Chapter 1;</li> <li>• Watch Chapter 1 lecture video;</li> <li>• Submit Lab 1-0;</li> <li>• Read and work on the hands-on examples in Appendix B: PivotTables (Pages 540-541);</li> <li>• Read and work on the hands-on examples in Appendix H: Tableau Prep Builder</li> <li>• Optional but recommended: <ul style="list-style-type: none"> <li>○ Learn: Tableau Tools (Tableau.com): Part 1 Tableau Prep;</li> </ul> </li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• I suggest you to learn Tableau Prep and Desktop using Tableau.com resources. You don't need to be an expert for now since you will get more familiar with Tableau as you complete the labs throughout the semester.</li> </ul>	1/21 at 11pm
2	1/22-1/28	<b>Chapter 1: Data Analytics for Accounting and Identifying the Questions</b>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>• Homework – Chapter 1;</li> <li>• Labs 1-2 &amp; 1-3;</li> <li>• Read and work on the hands-on examples in Appendix I: Tableau Desktop;</li> <li>• Optional but recommended: <ul style="list-style-type: none"> <li>○ Learn: Tableau Tools (Tableau.com): Part 2 Tableau Desktop</li> </ul> </li> </ul>	1/28 at 11pm
3	1/29-2/4	<b>Chapter 2: Master the Data</b> <ul style="list-style-type: none"> <li>• Accounting Data Sources and Storage</li> <li>• Relational Database</li> <li>• Data Dictionaries</li> </ul>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>• SmartBook – Chapter 2;</li> <li>• Chapter 2 lecture video;</li> <li>• Lab 2-2;</li> </ul>	2/4 at 11pm

		<ul style="list-style-type: none"> <li>• Extract, Transform, Load (ETL)</li> <li>• Ethical Considerations</li> </ul>	<ul style="list-style-type: none"> <li>• Read and work on the hands-on examples in Appendix B: VLOOKUP (Pages 542-543).</li> </ul>	
4	2/5-2/11	<b>Chapter 2: Master the Data</b>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>• Read and work on the hands-on examples in Appendix D &amp; E: SQL Part 1 and Part 2;</li> <li>• Homework – Chapter 2;</li> <li>• Labs 2-3, 2-4.</li> </ul>	<b>2/11 at 11pm</b>
5	2/12-2/18	<b>Chapter 3: Perform the Test Plan and Analyze the Results</b> <ul style="list-style-type: none"> <li>• Descriptive Analytics (Summary statistics; data reduction)</li> <li>• Diagnostic Analytics (Profiling, cluster analysis, hypothesis testing)</li> <li>• Predictive Analytics (Regression, classification)</li> <li>• Prescriptive Analytics</li> </ul>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>• SmartBook – Chapter 3;</li> <li>• Chapter 3 lecture video;</li> <li>• Homework – Chapter 3;</li> <li>• Read Appendix A: Basic Statistics Tutorial.</li> </ul>	<b>2/18 at 11pm</b>
6	2/19-2/25	<b>Chapter 3: Perform the Test Plan and Analyze the Results</b>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>• Labs 3-2, 3-3;</li> <li>• Review Week 1 module: Tableau Tools (Tableau.com): Part 1 Tableau Prep &amp; Review Week 2 module: Part 2 Tableau Desktop.</li> </ul>	<b>2/25 at 11pm</b>
7	2/26-3/3	<b>Chapter 4: Communicate Results and Visualizations</b> <ul style="list-style-type: none"> <li>• Communicate Results (statistics and visualizations)</li> <li>• Purpose of Data Visualization (Qualitative vs Quantitative; Declarative vs Exploratory)</li> <li>• Types of Charts</li> <li>• Refine the Charts</li> <li>• Use of Wording to Create Insight</li> </ul>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>• SmartBook – Chapter 4;</li> <li>• Chapter 4 lecture video;</li> <li>• Homework – Chapter 4;</li> <li>• Review Appendix I: Tableau Desktop.</li> </ul>	<b>3/3 at 11pm</b>
8	3/4-3/10	<b>Chapter 4: Communicate Results and Visualizations</b>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>• Labs 4-1, 4-2;</li> </ul>	<b>3/10 at 11pm</b>



			<ul style="list-style-type: none"> <li>Review Week 1 module: Tableau Tools (Tableau.com): Part 1 Tableau Prep &amp; Part 2 Tableau Desktop.</li> </ul>	
9	3/11-3/17	<b>No class – Spring Break</b>		
10	3/18-3/24	<b>Midterm Exam; Starting the project.</b>	<b>Respondus Lockdown Browser and a webcam must be installed on your computer for exam.</b>	<b>Exam Date and Time TBD</b>
11	3/25-3/31	<b>Chapter 5: The Modern Accounting Environment</b> <ul style="list-style-type: none"> <li>The Modern Data-Rich Audit Environment (Automation)</li> <li>Different Approaches to Organizing Enterprise Data and Common Data Models</li> <li>Automate Data Analytics</li> <li>Continuous Monitoring</li> <li>Working Papers and Audit Workflow</li> </ul>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>SmartBook – Chapter 5;</li> <li>Chapter 5 lecture video;</li> <li>Homework – Chapter 5.</li> </ul>	<b>3/31 at 11pm</b>
12	4/1-4/7	<b>Chapter 6: Audit Data Analytics</b> <ul style="list-style-type: none"> <li>Apply IMPACT</li> <li>Descriptive Analytics</li> <li>Diagnostic Analytics</li> <li>Advanced Predictive and Prescriptive</li> <li>Analytics in Auditing</li> </ul>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>SmartBook – Chapter 6;</li> <li>Chapter 6 lecture video;</li> <li>Homework – Chapter 6;</li> <li>Labs 6-1, 6-2.</li> </ul>	<b>4/7 at 11pm</b>
13	4/8-4/14	<b>Chapter 7: Managerial Analytics</b> <ul style="list-style-type: none"> <li>Apply IMPACT</li> <li>Balanced scorecard and key performance indicators</li> <li>Data quality</li> </ul>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>SmartBook – Chapter 7;</li> <li>Chapter 7 lecture video;</li> <li>Homework – Chapter 7;</li> <li>Lab 7-1.</li> </ul>	<b>4/14 at 11pm</b>
14	4/15-4/21	<b>Chapter 8: Financial Statement Analytics</b> <ul style="list-style-type: none"> <li>Descriptive (Ratio, Vertical analysis)</li> <li>Diagnostic (Benchmark)</li> <li>Predictive (Horizontal trend analysis)</li> <li>Prescriptive</li> </ul>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>SmartBook – Chapter 8;</li> <li>Chapter 8 lecture video;</li> <li>Homework – Chapter 8;</li> <li>Lab 8-1.</li> </ul>	<b>4/21 at 11pm</b>

		<ul style="list-style-type: none"> <li>• Visualizations (Sparklines, heat map, sunburst diagram)</li> <li>• Sentiment analysis</li> <li>• XBRL (Data quality)</li> </ul>		
15	4/22-4/28	<b>Chapter 9: Tax Analytics</b> <ul style="list-style-type: none"> <li>• Apply IMPACT</li> <li>• Tax Data</li> <li>• Visualizations</li> <li>• Tax Planning (What-If analysis)</li> </ul>	<b>Complete the following on Connect:</b> <ul style="list-style-type: none"> <li>• SmartBook – Chapter 9;</li> <li>• Chapter 9 lecture video;</li> <li>• Homework – Chapter 9;</li> <li>• Lab 9-1.</li> </ul>	<b>4/28 at 11pm</b>
16	4/29-5/5	<b>Final Project and Presentation Due</b>		<b>5/5 at 11pm</b>