SP 2025

(Items in table below are all ⊛ required.)

Meeting days: Tuesday and Thursday	**Instructor title and name:** Matt Boyne
Meeting times: 1:30-2:45	**Phone:** 760.715-8071
Meeting location: FSB 104	**E-mail:** mboyne@pointloma.edu
Final Exam: (day/time) May 6, 2025 1:30-4:00	**Office location and hours:** FSB 130 Tuesday, Thursday and Friday 11:00 – 1:00
Additional info:	**Additional info:**

PLNU Mission⊛
To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

Fermanian School of Business Mission⊛
Character – Professionalism – Excellence – Relationships – Commitment - Innovation

As members of a vital Christian community, we strive to provide high quality business programs that equip students to make a positive impact in their workplace and community by connecting purpose to practice.

COURSE DESCRIPTION⊛

This course explores how leaders can use data to inform the decision-making process. Topics include identifying the right information, eliminating bias, understanding predictive analytics, data visualization, communicating uncertainty and addressing challenges to your data. An emphasis is placed on basic methods of gathering, analyzing and communicating data.

COURSE LEARNING OUTCOMES ⊛

The student who successfully completes this course will be able to:

1. Define "big data" and the increasing role of evidence-based decision making to support executive decision making (PLO 1).
2. Explain the differences between predictive, prescriptive, and descriptive analytics, and the organizational questions that can be answered with each approach (PLO 1).
3. Examine the processes of gathering, analyzing, visualizing and communicating data (PLO 1, 2).

4. Demonstrate an understanding of the principles of analytics using examples from a variety of organizational functions and industries (PLO 2).
5. Recognize the ethical implications of collecting, managing, and using data for managers and leaders (PLO 4).

REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES

- Richardson, V.J. & Weidenmier Watson, M. (2024). *Introduction to business analytics*. New York: McGraw Hill LLC. ISBN: 978-1-265-45434-0
- Loth, A., Vogel, N., & Sparkes, S. (2019). *Visual analytics with tableau.* John Wiley & Sons. ISBN: 978-1-119-56020-3
- Microsoft Excel – **Please ensure you have the data tools installed in Excel.**
- Tableau Student Edition – **Please be sure your laptop meets the requirements for Tableau**

Lomabooks Instructions for Students⍟:

For both digital and print materials, please add these student instructions to your syllabus and Canvas Course. Prior to the start of class, the PLNU Bookstore will also be sharing student instructions in a standalone email on how to access their content.

This course is part of our course material delivery program, **LomaBooks***. The bookstore will provide each student with a convenient package containing all required physical materials; all digitally delivered materials will be integrated into Canvas.*

You should have received an email from the bookstore confirming the list of materials that will be provided for each of your courses and asking you to select how you would like to receive any printed components (in-store pick up or home delivery). If you have not done so already, please confirm your fulfillment preference so the bookstore can prepare your materials.

For more information about **LomaBooks,** *please go: HERE*

ASSESSMENT AND GRADING ⍟

	Sample grade scale:	
5 Homework Assignments – 50% 500 Points 2 Module Exams – 30% 300 Points 1 In Class Final – 20% 200 Points	A=93-100	C=73-76
	A-=90-92	C-=70-72
	B+=87-89	D+=67-69
	B=83-86	D=63-66
	B-=80-82	D-=60-62
	C+=77-79	F=0-59

INCOMPLETES AND LATE ASSIGNMENTS

All assignments are to be submitted/turned in by the beginning of the class session when they are due—including assignments posted in Canvas. Incompletes will only be assigned in extremely unusual circumstances.

ARTIFICIAL INTELLIGENCE (AI) POLICY

You are allowed to use Artificial Intelligence (AI) tools (e.g., ChatGPT, Gemini Pro 1.5, GrammarlyGo, Perplexity, etc) to generate ideas, but you are not allowed to use AI tools to generate content (text, video, audio, images) that will end up in any work submitted to be graded for this course. If you have any doubts about using AI, please gain permission from the instructor.

LANGUAGE AND BELONGING

Point Loma Nazarene University faculty are committed to helping create a safe and hospitable learning environment for all students. As Christian scholars we are keenly aware of the power of language and believe in treating others with dignity. As such, it is important that our language be equitable, inclusive, and prejudice free. Inclusive/Bias-free language is the standard outlined by all major academic style guides, including MLA, APA, and Chicago, and it is the expected norm in university-level work. Good writing and speaking do not use unsubstantiated or irrelevant generalizations about personal qualities such as age, disability, economic class, ethnicity, marital status, parentage, political or religious beliefs, race, gender, sex, or sexual orientation. Inclusive language also avoids using stereotypes or terminology that demeans persons or groups based on age, disability, class, ethnicity, gender, race, language, or national origin. Respectful use of language is particularly important when referring to those outside of the religious and lifestyle commitments of those in the PLNU community. By working toward precision and clarity of language, we mark ourselves as serious and respectful scholars, and we model the Christ-like quality of hospitality.

If you (or someone you know) have experienced a bias incident regarding language, you can find more information on reporting and resources at www.pointloma.edu/bias.

LOMA WRITING CENTER

The Loma Writing Center exists to help all members of the PLNU community cultivate transferable writing skills to engage their academic, professional, personal, and spiritual communities. We work toward this goal by conducting one-on-one consultation sessions, supporting writing education across the PLNU community, and participating in ongoing writing center research.

Getting feedback from the Loma Writing Center while you're in the process of working on an assignment is a great way to improve the quality of your writing and develop as a writer. You are encouraged to talk with a trained writing consultant about getting started on an assignment, organizing your ideas, finding and citing sources, revising, editing for grammar and polishing final drafts, and more. For information about how to make in-person or online appointments, see Loma Writing Center webpage or visit the Loma Writer Center on the first floor of the Ryan Library, room 221.

- Appointment Calendar: https://plnu.mywconline.com/

- Website: https://www.pointloma.edu/centers-institutes/loma-writing-center

- Email: writingcenter@pointloma.edu

SEXUAL MISCONDUCT AND DISCRIMINATION

In support of a safe learning environment, if you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that accommodations and resources are available through the Title IX Office at pointloma.edu/Title-IX. Please be aware that under Title IX of the Education Amendments of 1972, faculty and staff are required to disclose information about such misconduct to the Title IX Office.

If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services at counselingservices@pointloma.edu or find a list of campus pastors at pointloma.edu/title-ix.
If you (or someone you know) have experienced other forms of discrimination or bias, you can find more information on reporting and resources at www.pointloma.edu/bias

SPIRITUAL CARE

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith.

If students have questions, a desire to meet with the chaplain or have prayer requests you can contact your professor or the Office of Spiritual Life and Formation.

STATE AUTHORIZATION (⊛ FOR FULLY ONLINE COURSES ONLY)

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on State Authorization to view which states allow online (distance education) outside of California.

PLNU COPYRIGHT POLICY ⊛

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU Recording Notification⊛

In order to enhance the learning experience, please be advised that this course may be recorded by the professor for educational purposes, and access to these recordings will be limited to enrolled students and authorized personnel.

Note that all recordings are subject to copyright protection. Any unauthorized distribution or publication of these recordings without written approval from the University (refer to the Dean) is strictly prohibited.

PLNU ACADEMIC HONESTY POLICY⊛

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. For all student appeals, faculty and students should follow the procedures outlined in the University Catalog. See Academic Policies for definitions of kinds of academic dishonesty and for further policy information.

PLNU ACADEMIC ACCOMMODATIONS POLICY⊛

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines allowed accommodations. The EAC makes accommodations available to professors at the student's request.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course. Accommodations are not retroactive so clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC. Students cannot assume that because they had accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any special accommodations.

PLNU ATTENDANCE AND PARTICIPATION POLICY⊛

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive an "F" grade.

USE OF TECHNOLOGY⊛(required for online and hybrid delivery ONLY)

In order to be successful in your course, you'll need to meet the minimum technology and system requirements; please refer to the *Technology and System Requirements* information. Additionally, students are required to have headphone speakers, microphone, or webcams compatible with their computer available to use. Please note that any course with online proctored exams requires a computer with a camera (tablets are not compatible nor allowable) to complete exams online.

Problems with technology do not relieve you of the responsibility of participating, turning in your assignments, or completing your class work.

FINAL EXAMINATION POLICY✸

Successful completion of this class requires taking the final examination on its scheduled day. The final examination schedule is posted on the [Traditional Undergraduate Records: Final Exam Schedules](#) site. If you find yourself scheduled for three (3) or more final examinations on the same day, you are authorized to contact each professor to arrange a different time for <u>one</u> of those exams. However, unless you have three (3) or more exams on the same day, no requests for alternative final examinations will be granted.

COURSE SCHEDULE AND ASSIGNMENTS ✸

Week 1: Introduction to Tableau and Data Literacy

Before class, please download [Tableau for Students](#):
https://www.tableau.com/academic/students

Checklist for Download:

1. Please ensure you have the following operating systems for your laptop. Tableau Desktop does not work on Google Chromebooks. Read this over:
    https://www.tableau.com/learn/get-started/creator

Microsoft Windows 8/8.1, Windows 10 (x64), Windows 11

Minimum System Requirements

- Intel Core i3 or AMD Ryzen 3 (Dual Core)
- 4GB memory or larger
- 2GB HDD free or larger
- CPUs must support SSE4.2 and POPCNT instruction sets

Recommended Requirements

- Intel Core i7 or AMD Ryzen 7 (Quad Core)
- 16GB memory or larger
- 2GB SSD free or larger

Mac

macOS Big Sur 11.4+, macOS Monterey 12.6+ (for Tableau 2022.3+), macOS Ventura (for Tableau 2022.3+), macOS Sonoma (for Tableau 2022.3+); Apple Silicon machines require the use of macOS Ventura (13+) or newer

Minimum System Requirements

- Intel processors - Core i3 (Dual Core) or newer
- Apple Silicon processors (using Rosetta - 24.1 and below)
- Apple Silicon processors (version 24.2 or newer on MacOS Ventura or newer)
- 4GB memory or larger
- 2GB HDD free or larger

Recommended Requirements

- Intel Core i7 (Quad Core)
- 16GB memory or larger
- 2GB SSD free or larger

2. Fill out student request at: [Tableau for Students](). Ensure you use your Point Loma email address and that you are downloading Tableau Desktop.
3. You will receive an email from Tableau with an authorization key. It is highlighted and bold.
4. Log in to tableau.com. You'll be sent to a free site, download Tableau for your desktop. Takes about 3 minutes.
5. You'll be asked to purchase, enter the authorization key.
6. Good to go!

From our course textbook *Visual Analytics with Tableau,* please read the following before class:

- Tuesday January 14, 2025 - Syllabus and Canvas
- Thursday January 16, 2025 - Loth, Chapter 1 Visual Analytics with Tableau

Week 2: Tableau and Visualizations

Tuesday January 21, 2025 (1:30-2:45)

Thursday January 23, 2025 (1:30-2:45)

From our course textbook *Visual Analytics with Tableau,* please read the following before class:

- Loth, Chapter 3

In class we will study the types and uses for various types of charts.

Week 2 Homework – 25 Points Data Visualization for Tableau due January 28, 2025.

Week 3

Tuesday January 28, 2025
Thursday January 30, 2025

From our course textbook *Introduction to Business Analytics*, please read the following before class:

- Richardson, Chapter 1

In class, we'll work Labs 1.2 and 1.3 with both Excel and Tableau.

If you need Excel, please follow these instructions to get a free download. Ensure you download and don't try to use the Web version: https://help.pointloma.edu/TDClient/1808/Portal/KB/ArticleDet?ID=103058

Week 4

Tuesday February 4, 2025

Thursday February 6, 2025

From our course textbook *Introduction to Business Analytics*, please read the following before class:

- Richardson, Chapter 2

In class, we'll work Labs 2.1, 2.2, and 2.3 with both Excel and Tableau, depending on the Lab.

Week 4 Homework (100 Points) Due February 11, 2025: The assigned Lab for the SOAR Report homework is Lab 2.4, using Excel. The submission will be one SOAR report using the results of Excel; plus the Excel workbook as a submission. Follow the prompts in Lab 2.4 on page 127. Here is the Lab 2.4 data Download Lab 2.4 data

Week 5 Data Sources and Statistics

Tuesday February 11, 2025

Thursday February 13, 2025

From our course textbook *Introduction to Business Analytics*, please read the following before class:

- Richardson, Chapter 3

In class, we'll work Labs 3.1, 3.2 and 3.5 with both Excel and Tableau.

Week 6 Exploratory Analysis

Tuesday February 18, 2025

Thursday February 20, 2025

From our course textbook *Introduction to Business Analytics*, please read the following before class:

- Richardson, Chapter 4

In class, we'll work Labs 4.1, 4.2 and 4.3 with both Excel and Tableau.

Week 6 Homework Due February 25, 2025 100 Points

Using the data sets provided, along with the Lab number from the Richardson text please complete two SOAR reports for 50 points each, to be submitted as separate documents. Please title and place your name on each document.

1. Using Tableau, please prepare a SOAR report for Lab 2.3 Tableau on page 117 of the Richardson textbook. Here is the [Lab 2.3 Tableau Data Set.](#)

2. Using Tableau, please prepare a SOAR report for Lab 3.2 Tableau on page 197 of the Richardson textbook. Here is the [Lab 3.2 Tableau Data Set.](#)

Week 7 Review Tableau Fundamentals and Chapters 1-4 of Richardson

Tuesday February 25, 2025
Thursday February 27, 2025

The Midterm is a take home, and due Tuesday March 4, 2025 and is worth 150 Points

Week 8 Time Series Forecasting

Tuesday March 4, 2025
Thursday March 6, 2025

From our course textbook *Introduction to Business Analytics*, please read the following before class:

- Richardson, Chapter 5.1–5.2 on Time Series Analysis

In class, we'll work Labs 5.1, and 5.2 with both Excel and Tableau.

Week 9 Break March 9-16 No Class

Week 10 Introduction to Regression Analysis as Predictive Analytics

Tuesday March 18, 2025
Thursday March 20, 2025

From our course textbook *Introduction to Business Analytics*, please read the following before class:

- Richardson, Chapter 5.2–5.3 on Regression

In class, we'll work Labs 5.6, and 5.7 with both Excel and Tableau.

Week 11 Confirmatory Analytics with Case Studies

Tuesday March 25, 2025

Thursday March 27, 2025

From our course textbook *Introduction to Business Analytics*, please read the following before class:

- Richardson, Chapter 5.4–5.5

Week 11 Homework 125 Points Due April 1, 2025. This homework will apply regression analysis to Lab 5.6. The Lab is found on page 319 of the Richardson text. Please write a SOAR report following the prompts in the Lab, use this data set , and also submit the Excel workbook.

Week 12 Review and Exam on Predictive Analytics

Tuesday April 1, 2025
Thursday April 3, 2025

Week 11 Take home Exam Due April 7, 2025 Predictive Analytics.

This test uses data sets for a time-series forecasting problem and regression analysis.

Lab 5.1 uses Excel. Please create a SOAR Report for Lab 5.1 on page 293 of the textbook using this Lab 5.1 data set and Excel. Please submit the SOAR Report and the Excel Workbook with regression results.

Lab 5.4 uses Tableau. Please create a SOAR Report for Lab 5.3 on page 308 of the textbook using this Lab 5.3 data set and Tableau. Please submit the SOAR Report and the Excel Workbook with regression results.

Week 12: Reporting the Results

Tuesday April 8, 2025

Thursday April 10, 2025

From our course textbook *Introduction to Business Analytics*, please read the following before class:

- Richardson, Chapter 6

In class, we'll work Labs 6.1, 6.2, 6.3 and Tableau, 6.4

Week 13 Dashboards (Holy Week-No Class on Thursday)

Tuesday April 15, 2025

Read Chapter 8 on Dashboards from Visual Analytics with Tableau

<u>Week 13 Homework 150 Points Due April 22, 2025</u>

Using this <u>data set</u> , please create a dashboard with the mean and median sale price, as well as the relationship between the square footage of the home compared to the sales price. The data set should describe using a bar/column chart and develop the relationship with a scatter plot. Be sure to insert the trend line with an R2 in the Scatter Plot. Please do the analysis for Boulder CO, Eugene OR and Tacoma/Seattle WA. This requires using the Filter process for Tableau.

Please integrate the dashboard as a screenshot into a SOAR Report. The specific business questions to answer are: Is the data in these three markets consistent with the mean and the median or do outliers affect the descriptive statistics? How strong is the relationship between mean square footage of the homes and the sale price?

Please submit both a TWBX and the SOAR Report.

<u>Real Estate Data Set for BBU/BUS 3010</u>

Week 14 Advanced Analytics and Mapping with Tableau

Tuesday April 22, 2025

Thursday April 24, 2025

From our course textbook *Introduction to Business Analytics*, please read the following before class:

- Richardson, Chapter 11

In class, we'll work through sections 11.1-4 together.

Week 15 Class Review and Final Preparation with Case Studies

Tuesday April 29, 2025

Thursday May 1, 2025

We'll work on case studies from Chapters 7-11 of Richardson to prepare for the final

Week 16 Final Exam In Person Tuesday May 6, 2025 1:30-4:00