

Special Topics: Data Viz. and Storytelling for HRM

Fall 2026

Instructor: Christopher To, chto@smlr.rutgers.edu

37:533:331:01 Hybrid

Teaching Assistant: Mani Ejjada (ne248@scarletmail.rutgers.edu)

FAQ FOR PROSPECTIVE STUDENTS

What is this class? This is a class on data visualization and communication. We will cover the following:

- “Hard skills:” Preparing data, visualization, creating interactive dashboards
- “Soft skills:” Problem scoping, visual design, communicating insights

What could I put on my resume after taking this course?

- Skills: Tableau, data visualization, dashboard creation, data analysis.
- Project: The final project involves creating a dashboard to analyze and track government HR hirings and exits. The dashboard can be made public on your resume or social media.
- [Certifications](#) (Optional): The course will prepare you for certifications in Tableau Desktop Foundations, and most (but not all) of Tableau Data Analyst. See student discounts.

I dislike numbers and data! Should I take this course? Yes. Tableau is designed to be “easy” and hides most of the numbers. It is mostly “pointing and clicking.” Once you explore the software, data viz. becomes surprisingly intuitive, easier than you think, and becomes more “arts and crafts” than numbers.

Outside of Tableau, the course is mostly psychology and soft skills. We cover the psychology of visual design and communication, and soft skills in problem scoping, insight generation, and interviewing. Data viz. relies more on empathy and prioritizing people (not numbers). Tableau mostly hides the numbers for you, so you can focus on using empathy, communicating and solving problems, and people skills.

I like numbers and data! Should I take this course? Probably. I am not aware of many courses (outside of Comp Sci, ITI, or Supply Chain) which teach data viz. and its related soft skills. This is a “no-code” course, as Tableau is designed for a broad market (e.g., those with minimal data experience).

What should I know about the grading philosophy? The weekly assignments are mostly pass/fail, I’ll tell you EXACTLY what is on the exam with study guides, and I’ll give you the rubric for the final project. My philosophy is to give you clear expectations and resources; your job is to do the work.

Show up to class, do the assignments, and I suspect you’ll likely manage a B. If you study, my hope is you’ll earn an A. When students get a C or below, they either don’t come to class or don’t do the work.

What does a typical week look like? This class is hybrid-format. Prior to class, you’ll complete an online lecture and assignment at your own pace (1 to 2 hrs). The lecture will show skills in GSheets/Tableau, and you’ll practice those skills with real-world data. In class, we’ll discuss relevant soft skills and a case to practice both soft and hard skills (1.5 hrs).

Can I use Gen AI (ChatGPT/Gemini/etc)? You can try, but it’s unlikely to work. GenAI struggles with generating complex visuals and context specific insights. This is a good thing: You are learning useful technical and soft skills that companies can’t outsource for \$20/month.

What jobs will this help me prep for? Data is everywhere, so the skills learned will be useful for any business or HR role. If you enjoy this course, consider jobs containing the following titles: Data analyst, business intelligence (BI), business/data insights, HRIS, and reporting/intelligence analyst.

Do I need to buy anything for this course? No.

COURSE OVERVIEW

How can we transform data into compelling visuals and stories? How can we derive actionable insights, inform decision-making, and create interactive dashboards to empower you and your stakeholders? Why is it that companies are so eager to grow their data analytic capabilities?

This course provides students with knowledge on visualizing and communicating insights from data. We practice the “hard skills” of cleaning data, generating visualizations, designing interactive dashboards, and creating data stories. We also develop the “soft skills” of stakeholder management, problem scoping, deriving actionable insights, and communicating insights to empower decision-makers.

The course’s learning modality is hybrid: There is an asynchronous portion and an in-person portion. The asynchronous portion focuses on the “hard skills,” where you learn Tableau at your own pace. The in-person portion focuses on the “softer skills” and provide further opportunities to practice the “hard skills,” but with the support of your classmates and instructor.

Asynchronous portions should be completed BEFORE the in-person portion.

COURSE MATERIAL

Class Material:

- Canvas will contain PowerPoint slides, lecture videos, announcements, and assignments.

Textbooks:

- Storytelling with Data: A Data Visualization Guide for Business Professionals by Cole N. Knaflic
- The Practical Guide to HR Analytics by the SHRM (Society of Human Resource Management)

Note: Digital copies are available for FREE from Rutgers library.

Software:

- Tableau

Note: [Tableau for Students](#) is available for FREE for one year

We will start using Tableau in Week 3. I recommended you request Tableau ASAP, as Tableau may take up to two weeks to respond.

GRADING AND COURSE REQUIREMENTS

Activity	Points
Weekly In-Person Lectures + Exercise	15%
Weekly Online Lectures + Exercise	15%
Exam 1 (In Person; Non-cumulative)	22.5%
Exam 2 (In Person; Non-cumulative)	22.5%
Final Project	25%

	Grading Scale
90-100%	A
85-89.9%	B+
80-84.9%	B
75-79.9%	C+
70-74.9%	C
60-69.9%	D
0-59.9%	F

DETAILS ON COURSE REQUIREMENTS

TECHNOLOGICAL REQUIREMENTS

- You are expected to have access to a reliable laptop and internet
- Install Tableau Public Desktop
 - You are strongly encouraged to install Tableau ASAP, as it may take up to two weeks to receive your free student copy
 - Go to this website: <https://www.tableau.com/academic/students>
 - If you have trouble installing the application, you can use the webapp <https://public.tableau.com/app/discover>. However, note the webapp is slower and you'll need to upload your data each time.

WEEKLY ASSIGNMENT AND STRUCTURE

- **Total Time:** Each week, you should allocate 2.5 to 3.5 hours to the course.
- **Asynchronous Portion (1 to 2 hours):**
 - **Lecture:** Videos demonstrate the “hard skills,” which you practice at your own pace. There are questions embedded into the lecture videos; unlimited retakes per video. Graded based on questions embedded within the lecture.
 - **Assignment:** Assignments are based on real-world problems and data, and should take approximately 20-40 minutes. Graded on a complete / no-complete basis.
- **In Person Portion (1.5 hours)**
 - **Lecture:** We review the asynchronous material and discuss the “soft skills” associated with data analysis, problem scoping, visual design, and storytelling.
 - **Assignment:** Designed to practice the “soft skills” discussed in class, and expand on the asynchronous assignments. You will have the support of your classmates and instructor. Cases are based on real-world problems or datasets. Graded on a complete / no-complete basis. Must be in person to receive credit (based on TopHat)

EXAMS

Exam 1 & 2 are in-class and closed-book. Exam 3 is online and open notes. Study guides are given to focus your efforts.

FINAL PROJECT

- **Goal:** Derive insights from Federal Government HR data to improve and monitor HR operations
- **Three deliverables:** 1) A Tableau dashboard, 2) a 5 minute recorded presentation, 3) a short written reflection
- **You will receive grades and feedback from your peers:** The intent is to expose you to different styles of dashboards and presentation styles.
- **Group versus Individual Projects:** You can work in groups to analyze the data, derive insights, and develop a dashboard. However, everyone needs to submit their own recorded presentation.

LATE POLICY

- **Assignments and Final Project:** Submissions late by 0-12 hours will lose 25%; 12-24 hours will lose 50%; past 24 hours will not be accepted
- **Exams:** Unless excused prior to the exam date, makeup exams will start with a 25% deduction.

TENTATIVE COURSE SCHEDULE

Tote that **dates are tentative and subject to change** (some topics may take more time and others less time, depending on students' interests).
Exam dates are firm.

Week	Asynchronous	In Person	Assignments (Reading + Asynch Due Before Class)
1 1/27	N/A	Introduction Course structure Spreadsheet basics and formulas	Reading: SHRM Ch. 1, Appendix A
2 2/3	Cleaning data Aggregating data + Pivot Tables	Problem assessment Selecting metrics: KPIs and guardrails	Reading: SHRM Ch. 2, Appendix E Asynchronous: Total salary by department In-Person: University grade inflation
3 2/10	Connecting data to Tableau Data types and functions Relationships and Unions	Data ecosystems and ETL Exploratory data analysis: Part 1 XLookups and IF statements	Reading: SHRM Appendix C Asynchronous: Constructing government datasets In-Person: Rutgers student outcomes
4 2/17	Tableau work screen Organizing data and hierarchies Tables and bar graphs	Exploratory data analysis: Part 2 Generating metrics Histograms, Scatterplots, Magic Quadrants	Reading: SHRM Ch. 5, Appendix D Asynchronous: Federal government comp. costs? In-Person: Rutgers student outcomes
5 2/24	Exam (1 – 4; In-Person)		
6 3/3	Line and area graphs Heatmaps and highlight tables Formatting worksheets	Pre-attention Color & Order Patterns versus insights	Reading: Knafllic Ch. 4 Asynchronous: Federal employee quit rates? In Person: Why are federal employees quitting?
7 3/10	Tableau marks Tree maps and bubble charts Pie charts and sparklines	Visual lies and biases Gestalt psychology Choosing the right visual	Reading: Knafllic Ch. 2 Asynchronous: Federal employee hiring patterns? In-Person: Job market and hiring patterns
SPRING BREAK (3/14 to 3/22)			
8 3/24	Quick calculations Choropleth maps and map layers	Visual design frameworks and principles De-junking graphs	Reading: Knafllic Ch. 3 Asynchronous: Federal employee hiring locations? In-Person: Presidential election voting patterns
9	Dashboards and actions	Dashboard design principles	Reading: Knafllic Ch. 5

3/31	Formatting dashboards	Thinking like a designer	Asynchronous: Federal employee engagement? In-Person: Monitoring metrics with dashboards
10 4/7	Exam (6 – 9; In-Person)		
11 4/14	N/A	Storytelling structure Methods in storytelling Slide design principles	Reading: SHRM Ch. 7, Appendix I Asynchronous: N/A In-Person: Work on final project
12 4/21	Advanced vz.: “Big Angry Numbers,” dual-axis charts, motion charts	Identifying and selling problems Presentation skills	Reading: SHRM Ch. 8, Appendix J Asynchronous: Fed. employee turnover? In-Person: Work on final project
13 4/28	Analytics: Scatterplots, trends, forecasts, distribution bands	Career Development: Interviewing & Networking	Reading: Knafllic Ch. 7 Asynchronous: Professional network map In-Person: Work on final project
14 5/5	Exam (11 – 13; Online Open Notes) PROJECT DUE		
15 5/12	Finals Week: Optional Cumulative Exam (To replace your worst exam grade) PROJECT PEER REVIEW		

Course Content

Part 1: Data Intro and Problem Statements



Online

Data wrangling in GSheets
Tableau Basics

Part 2: Tableau and Viz. Theory



Tableau Viz.
Dashboard creation

Part 3: Presentation and Communication



Advanced Tableau Viz.

In Person
Problem Assessment
Constructing Metrics

Viz. Design Theory
Observations to Insights

Narratives & Storytelling Skills
Interview Prep

THOUGHTS ON STUDYING AND RESOURCES FOR SUPPORT

ADVICE FOR STUDYING

Here are some resources to help improve your studying skills and habits.

- **Free academic coaching:** <https://rlc.rutgers.edu/student-services/academic-coaching>
- **Some tips:**
 - <https://www.snexplores.org/article/top-10-tips-study-smarter-not-longer-study-skills>
 - <https://learningcenter.unc.edu/tips-and-tools/studying-101-study-smarter-not-harder/>
 - <https://students.dartmouth.edu/academic-skills/learning-resources/studying-tips>
- **Repetition is key.** Studying begins with reading the material, and paying attention in the lectures. The focus should be on compiling and organizing information. Then, review your notes shortly after the lecture or readings.
- **Use flashcards and space your repetition.** Space your repetition over time. For example, instead of cramming 200 flashcards in one session, try 10 old flashcards and 10 new flashcards every day. There are apps (e.g., Anki) to space your repetition.
- **Pretend you are teaching the material to someone else** (e.g., a friend, pet, or inanimate object). This will force you to compile the information and translate it into your own words.
- **Pace your studying.** Have an exam? Be done with things 48 hours in advance. Test on Tuesday morning? That means you should finish studying by Sunday morning.
- **Study only one subject at a time.** Please don't try to cram for multiple classes simultaneously.

RESOURCES TO SUPPORT YOU

If you find yourself struggling academically, financially, or with mental health, contact me (chto@smlr.rutgers.edu) or the Dean of Students (<https://smlr.rutgers.edu/about-smlr/dean-students>).

If you prefer to approach the university first, the school provides resources to including academic tutoring (<https://rlc.rutgers.edu/>), letters of accommodations regarding learning (e.g., ADD; <https://ods.rutgers.edu/>), emergency financial assistance (<https://studentaffairs.rutgers.edu/support-students/donate-to-student-affairs/emergency-assistance>), and mental health assistance (<http://health.rutgers.edu/medical-counseling-services/counseling/>).

If you want help navigating the above resources, send me a message, chat with me before/after class, or reach out for office hours.

NACE LEARNING GOALS

Identifying and articulating the NACE Career Competencies, technical, and transferable skills you acquire in this course and during your time at Rutgers are critical to understanding how these can connect to your future goals. In this course, you will become familiar with and develop the Career Competencies that employers are looking for. In this class, you will learn how to connect the NACE competencies to assignments, learning objectives, and overall skill building within this content in ways that make sense for your future employers or graduate programs. For continued assistance in identifying and articulating these competencies and skills, [schedule an appointment](#)

I) Communication - "Clearly and effectively exchange information, ideas, facts, and perspectives with persons inside and outside of an organization."

- Translate complex data into clear visuals and dashboards tailored to non-technical audiences
- Deliver an executive-style presentation that influences stakeholder decisions

II) Critical Thinking - "Identify and respond to needs based upon an understanding of situational context and logical analysis of relevant information."

- Scope ambiguous business problems and select defensible KPIs and guardrail metrics
- Distinguish patterns from actionable insights, and identify visual lies and analytical biases

III) Technology - "Understand and leverage technologies ethically to enhance efficiencies, complete tasks, and accomplish goals."

- Use Tableau and spreadsheet tools to clean data and build interactive dashboards
- Recognize when AI and automation tools add value, and when human judgment is required

IV) Career & Self-Development - "Proactively develop oneself and one's career through continual personal and professional learning, awareness of one's strengths and weaknesses, navigation of career opportunities."

- Build a portfolio-ready dashboard artifact for resume, LinkedIn, and interview use
- Apply networking and interviewing strategies to navigate data-adjacent HR career paths

LEARNING GOALS MET BY THIS COURSE

SMLR LEARNING GOALS

I) Written & Oral Communication - "Communicate effectively at a level and in modes appropriate to an entry level professional.

- Communicate complex ideas effectively, in standard written English
- Analyze and synthesize information and ideas from multiple sources to generate new insights
- Produce quality research papers with proper convention of attribution/citation
- Produce high quality executive summaries
- Make an argument using contemporary and/or historical evidence
- Present ideas and arguments in a logical and effective way"

II) Quantitative Skills – Apply appropriate quantitative and qualitative methods for research workplace issues.

- Formulate, evaluate, and communicate conclusions and inferences from quantitative information
- Apply quantitative methods to analyze data for HR decision making including cost-benefit analyses, ROI, etc. (HRM)
- Apply qualitative methods appropriately, alone and in combination with quantitative methods

VI) Application – Demonstrate an understanding of how to apply knowledge necessary for effective work performance

- Apply concepts and substantive institutional knowledge, to understanding contemporary developments related to work
- Understand the legal, regulatory and ethical issues related to their field
- Develop human resource management functional capabilities used to select, motivate, and develop workers (HRM)
- Understand the internal and external alignment and measurement of human resource practices (HRM)

VII) Professional Development - Demonstrate an ability to interact with and influence others in a professional manner, and to effectively present ideas and recommendations.

- Develop effective presentation skills appropriate for different settings and audiences
- Develop career management skills to navigate one's career
- Understand cultural differences and how to work in a multicultural environment
- Work productively in teams, in social networks, and on an individual basis
- Develop cultural agility competencies
- Demonstrate lifelong personal & professional development skills

NACE LEARNING GOALS

I) Communication - "Clearly and effectively exchange information, ideas, facts, and perspectives with persons inside and outside of an organization."

- Translate complex datasets into clear, audience-appropriate visualizations
- Build interactive dashboards that communicate insights to non-technical stakeholders
- Deliver a recorded executive-style presentation that drives decision-making
- Apply principles of visual design, Gestalt psychology, and pre-attentive attributes to reduce cognitive load
- Structure data narratives (problem, insight, recommendation) for diverse audiences

II) Critical Thinking - "Identify and respond to needs based upon an understanding of situational context and logical analysis of relevant information."

- Scope ambiguous business problems and translate them into measurable analytical questions
- Select defensible KPIs and guardrail metrics aligned to organizational goals
- Conduct exploratory data analysis to distinguish patterns from actionable insights
- Identify and counter visual lies, statistical biases, and misleading dashboard design choices
- Evaluate competing visual encodings and select the one best suited to the audience and decision context

III) Technology - "Understand and leverage technology ethically to enhance efficiencies, complete tasks, and accomplish goals."

- Clean, aggregate, and join real-world HR data using spreadsheet tools and Tableau
- Build interactive dashboards with filters, parameters, and dashboard actions
- Apply data ecosystem and ETL concepts to connect, transform, and visualize data
- Prepare for industry-recognized credentials (Tableau Desktop Foundations; Tableau Data Analyst)
- Recognize the limits of generative AI tools for context-specific data work

IV) Career & Self-Development - "Proactively develop oneself and one's career through continual personal and professional learning, awareness of one's strengths and weaknesses, navigation of career opportunities, and networking to build relationships within and without one's organization."

- Produce a portfolio-ready dashboard artifact suitable for resume, LinkedIn, or interview use
- Apply networking and informational interviewing strategies for data-adjacent HR roles
- Identify career paths in HRIS, business intelligence, people analytics, and reporting
- Practice self-paced learning habits through asynchronous lectures and optional certification prep
- Solicit and incorporate peer feedback through structured project review

- **3-5 skills needed (technical or non)**
- **The main goal of the position**
- **1-2 non-negotiable requirements**
- **1-2 nice-to-haves**

Professionalism – Detail orientation and motivation

Communication – Exchanging ideas.

Teamwork – Navigating conflict with others on team

Critical Thinking – It requires some data analysis and quant skills.

- **How does your course help support students with the skills to apply to this role?**

Soft Skills

Data Viz – Storytelling, communicating complex ideas very simply.

Algorithms – Communication and Critical Thinking

Leadership – Communication & Professionalism... and talking about stories

- **What can students include from your course in their resume that would highlight requirements/skills needed?**

Data Viz - Final project on data analysis and communicating the results

- **What are two 'surprises' from this job description that you weren't expecting? What made them unexpected?**

Very short job description. Little information on requirements and nice to have

No employee headcount on company description

No responsibilities.

Missing compensation and benefits... That should be added.

Mismatch between job description and job family.

UNIVERSITY GUIDELINES AND RESOURCES

The University's policy on cheating and use of copyrighted materials is enforced in this class. Students are expected to pursue knowledge with integrity. Please refer to the Academic Integrity Policy for more detail regarding these policies: <http://academicintegrity.rutgers.edu/academic-integrity-at-rutgers>

All students registered for this course are asked to sign an Academic Integrity Contract (refer to the last two pages of this syllabus). You must return a signed copy to me or the course TAs and keep a copy for yourself. This contract includes detailed explanations of behavior that constitutes plagiarism and cheating. Examples of a breach of this contract with regard to this specific course include, but are not limited to: sharing your answers or copying another student's answers on examinations; sending a fellow student who did not attend class the answers to a poll to falsely indicate their presence; copying material that is not your own without providing proper documentation (in the example of the HRM media extra credit). In the event that this contract is breached, the punishment can range from receiving a failing grade on the assignment, to being placed on disciplinary probation or permanent expulsion from Rutgers.

STUDENTS WITH DISABILITIES

Students requesting accommodations for disabilities should contact the Office of Disability Services to determine his/her Coordinator. The Coordinator will then provide documentation to the student. Upon review and approval, the student must then provide this documentation to the instructor. Please refer to the Office of Disability Services for Students for more detail regarding this policy:

<http://disabilityservices.rutgers.edu/>. Students may make requests for accommodations:
<http://disabilityservices.rutgers.edu/request.html>

STUDENT RESOURCES (MENTAL HEALTH, ACADEMIC COACHING, FINANCIAL ASSISTANCE)

Students may experience unique challenges as they progress through their academic careers. Rutgers has a number of resources to assist you. If you need support in one of the following areas, we encourage you to utilize the following resources. In addition, if you think I may be of help at any point, you are strongly encouraged and welcomed to send me a message or chat with me before/after class or during office hours.

<https://smlr.rutgers.edu/about-smlr/fall-2022-information-smlr-students>

SCHOLARSHIPS

The School of Management and Labor Relations offers a number of scholarships and fellowships to support its students. Relevant deadlines and criteria can be found here:

<https://smlr.rutgers.edu/academic-programs/scholarships>