

HR Analytics
Fall 2025
38:533:550:90

KEY POINTS

- Instructor:** T.J. Raineri, School of Management and Labor Relations
- Class Time:** This class will be an in person class. Class will be held Mondays 4:30 PM to 7:10 PM in Room 106, Janice Levin Building.
- Technology:** The class is supported in Canvas. Note that the Canvas platform has instructions and tutorial to help you (see <https://canvas.rutgers.edu/students/>). Communication with the professor will be conducted using Zoom, and email communication is welcome.
- Office Hours:** My official personal office hours will be once a week, but I anticipate being in the office most of the time and am happy if you just want to drop by.
(Policy) Participation in office hours is **NOT** required and does **NOT** influence your grade.
- Office Hours**
- Tuesday 2:30-4:30 PM
 - My office is room 216L
 - You can also make an appointment to meet with me. Please contact me by email, preferably with 2 or 3 possible times (in order of preference, if any).
 - Meetings can be held by Zoom if that is easier.
- E-mail:** Instructor: traineri@smlr.rutgers.edu

Textbook: (Required)	<i>Investing in People: Financial Impact of Human Resource Initiatives</i> Wayne F. Cascio, John W. Boudreau, & Alexis A. Fink. Pearson Education, Inc. 3 rd Edition (2019). ISBN: 978-1586446123 (I'd recommend purchasing the paperback. The book is also available online through the Rutgers library system.)
Readings:	Readings should be accessible through the library system as well as the Canvas course webpage (https://tlt.rutgers.edu/canvas).
Attendance:	Attendance will be a portion of your grade through the 15% of your overall grade Course Engagement score.
Flexibility:	If a student has personal/medical/family emergency during the semester, the asynchronous format of the course will allow for flexibility. Depending on the scope (and timing) of the emergency, I can work with you on revised due dates to help you complete the course. If absolutely necessary, an incomplete can be taken and the course finished in the Spring semester.
Grading:	All grading involves either assignments within Canvas or documents "handed in" to me through the Canvas system.

COURSE DESCRIPTION

This course is designed to introduce students to the fundamental logic, metrics, and methods necessary to conducting HR analytics. Organizations are increasingly relying on HR Analytics to improve decision-making in human resources, and ultimately contribute more effectively to organizational effectiveness. HR practitioners need to be skilled in understanding (1) the types of problems that can be addressed using HR analytics, (2) how to analyze and interpret human resource data, (3) how to evaluate the validity of those analyses, and (4) how to communicate analytical and statistical results in a way to influence decisions. The course is designed to teach basic HR Analytics skills and critical thinking skills with respect to HR decision-making. The course will involve data analysis and statistics, but its emphasis is on application and real-world problem solving.

COURSE OBJECTIVES

Upon successfully completing this course, students should be capable of the following:

- Relating the importance of using data-based reasoning to support HR decision-making
- Engaging in critical thinking, translating how human resource issues and questions can be tested
- Performing basic data analyses to answer human resource questions
- Conducting summary statistics, correlation analysis, and regression analysis to answer human resource questions
- Communicate, in writing and orally, the meaning and implications of HR analytics

MY TEACHING PHILOSOPHY

My teaching philosophy is grounded in the belief that education is a transformative process that empowers individuals to achieve their fullest potential. I view the classroom as a dynamic space where curiosity, critical thinking, and collaboration converge to create meaningful learning experiences. My goal as an educator is not only to impart knowledge but also to inspire a lifelong love for learning and equip students with the skills and confidence to navigate a rapidly changing world.

Central to my approach is the principle of student-centered learning. My goal, quite simply, is for you to learn. I want you coming out of this class knowing how to “do things” with HR Analytics that you did not know going into this course. I understand that students come to the course with different comfort levels regarding their prior HR background, their knowledge of statistics, and their skills in using Excel. It is my responsibility to teach you how to engage in analytics. If you don’t know how to do something with Excel or conduct a particular type of analysis, I will teach you. If there is something you need to know that I didn’t cover, I encourage you to ask about it in office hours—chances are, others may be similarly confused.

I believe education should be flexible and adaptive to meet the needs of learners. Your education is more important than a schedule set up months ahead of time. It matters more to me that you learn than for me to rigidly enforce deadlines. If you will be late with an assignment, I would rather you complete the assignment and hand it in late than not complete it at all. Assignments are designed for you to learn from, not merely to justify a grade. My priority is your understanding of the material. End-of-semester deadlines remain fixed, but I will accept late assignments up to a set date without significant penalty to support your learning.

I also encourage collaborative learning by fostering opportunities for you to work together with your classmates to solve problems and deepen your understanding of the material. Sharing ideas and approaches can help you see the content from new perspectives, develop stronger analytical skills, and build connections that enhance your overall learning experience. While formal group projects or discussions are not part of the course, I strongly encourage you to collaborate informally as part of your journey to mastering HR Analytics.

Finally, I fully recognize the continued chaos and challenges that many students face. If you need help or accommodations, please ask. I strive to create an environment where you feel comfortable sharing challenges so that I can support your learning goals. Flexibility, skill development—particularly in Excel—and understanding each student’s unique objectives are integral to my teaching philosophy. By fostering a culture of inquiry, collaboration, and adaptability, I aim to help you emerge from this class with both the skills and confidence to apply HR Analytics effectively.

SMLR LEARNING OBJECTIVES

This course is designed to help students attain the following specific SMLR learning objectives:

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 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, Qualitative, and Analytical 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

III) Research Skills — Demonstrate an ability to collect, analyze and synthesize information to make logical and informed decisions impacting the workplace. Use evidence to evaluate hypotheses, theories and approaches to workplace issues.

- Analyze and synthesize information and ideas from multiple sources to generate new insights
- Assess and critique relevant evidence and research findings
- Use evidence-based analysis to appraise the validity of various hypotheses, theories, and approaches to workplace issues

V) Understanding Context — Evaluate the context of workplace issues, public policies, and management decisions

- Analyze issues related to business strategies, organizational structures, and work systems

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
- Understand the internal and external alignment and measurement of human resource practices (HRM)

VIII) Diversity, Equity, and Inclusion — Evaluate the context of workplace issues, public policies, and management decisions.

- Analyze issues related to business strategies, organizational structures, and work systems
- Analyze issues related to the selection, motivation, and development of talent in a local and global context

GRADING

Material	Weight
Reading Assignments:	(10%)
For most weeks, there will be a reading and a corresponding homework assignment. The reading and assignment will be provided in the module in the week before it is due (so, the reading and reading assignment for Week 2 will be provided in Week 1's module). All assignments should be written in double-spaced; 12-point font; Times New Roman; 1-inch margins.	
Course Engagement:	(15%)
There will be ample opportunities to demonstrate your engagement with the course. First, attendance. Showing up to class is the easiest way to demonstrate your engagement with learning the course material. Second, there will be in-class exercises weekly that will only be open to those that come to class. They will not be graded for correctness but show that you are engaging with the material. Third, participating in the class discussion. While this is an analytics course, there will be ample time to discuss the material in class meetings.	
Analytical Workbook (Due on the Wednesday of the week of class):	
Students will be expected to regularly work on workbook using data provided on the hypothetical company, <i>Mr. Macky's Cajun Cuisine</i> . Information about the company and the data will be provided in class. There are four modules due at various points during the semester, and the fifth module is due during finals period (please refer to due dates in our course schedule). Each module provides a series of exercises and analytics that you will need to compute and solve. The modules address different areas of analytics, and each module moves from simpler analyses to more complex analyses. Nonetheless, all statistical analyses can be conducted using Excel's Analysis Toolpak add-in. Depending on your own skills, you can import the data into a statistical package and conduct your analyses with such tools as well.	
Module 1: Summary Information (Due 10/8)	(10%)
You will conduct analytics that provide basic foundational information about Mr. Macky's. In this module, you will find out summary information about current employees, employees who had been employed by Mr. Macky's over the past few years, and on the various restaurant units of the restaurant chain. Information determined in this Module will help set up analyses for future modules.	
Module 2: Performance & Turnover (Due 11/5)	(15%)
Module 2 pushes you to consider in detail the effects associated with managerial performance ratings, and particularly to examine the relationship between job performance ratings and unit performance. The module then moves into considering the predictors and consequences of employee turnover. This includes by modeling how turnover rates relate to unit performance, as well as developing turnover models to predict the likelihood that individual employees will leave the organization.	
Module 3: Engagement, Diversity & Selection (Due 11/26)	(15%)
In Module 3, you will explore issues associated with engagement, diversity, and selection. This module will have you explore issues associated with the measure of employee engagement. It will also examine how successful Mr. Macky's has been in its selection efforts, both in terms of the	

performance ratings of those hired and the diversity of its recruitment and compensation practices. You will also look into what options Mr. Macky's has with respect to the design of a new selection system and explore ways that Mr. Macky's can improve the quality of its managerial hires. You will also help evaluate the different selection devices and their relative effectiveness.

Module 4: Employee Development & Compensation (Due 12/10) (15%)

In Module 4, you will engage in HR Analytics associated with employee development and compensation. Although Mr. Macky's does not provide much in the way of training, you can look at how employees develop within the organization. In this module, you will explore how much value there is to the organization in accumulating organizational experience. You will also try to understand how the company rewards performance and how effective their compensation practices are for incentivizing future performance and retaining high performers.

(Optional: Revise and Resubmit) For Modules 1-4, after each part submitted, I will endeavor to provide you with grades within one week. The grading will indicate which questions were answered incorrectly. You can then revise and resubmit your responses. The grade for resubmission will replace your initial grade of each module only if it is higher than the initial grade (which it should be, because you shouldn't change any correct answers). Although the resubmission is optional and you may choose not to resubmit your response, I encourage you to review your response for learning purposes. Modules may be resubmitted more than one time if desired. The last day to hand in resubmissions is December 14. Note that revise and resubmissions will only be available to those students that submit the initial module by the deadline. If submissions are not made by the stated deadline, the initial score will be the final score for the Module assignment.

Module 5: Cross-Function and Big Picture (Due on December 17) (20%)

Module 5 covers all aspects of analytics covered in the course. It includes questions related to individual functions covered in the earlier modules, as well as analytics associated with multiple functional areas. It also provides questions related to the overall impact of various HR functions. Note that with Module 5, you will not be able to revise and resubmit your answers to improve your grade.

FINAL GRADES

Final grades will be computed mathematically based on the aforementioned weighting and the scores on the various grade elements. Final grades for the class will be determined as follows:

90-100	A
85-89.9	B+
80-84.9	B
75-79.9	C+
70-74.9	C
< 70	F

COURSE INFORMATION, POLICIES, AND RESOURCES

Course Website:

The course Canvas website (<https://tlt.rutgers.edu/canvas>) will be the primary mechanism that I will use to communicate information to the entire class outside of lecture. All class material, lectures, readings, assignments, and grades will all be available on the course website.

Computer Use:

This class will make extensive use of Excel and the Data Analysis Add-In. Please make sure you can use the Data Analysis tools.

For Windows: <https://support.office.com/en-us/article/load-the-analysis-toolpak-in-excel-6a63e598-cd6d-42e3-9317-6b40ba1a66b4%23OfficeVersion=Windows>
For Mac: <https://support.office.com/en-us/article/load-the-analysis-toolpak-in-excel-6a63e598-cd6d-42e3-9317-6b40ba1a66b4#OfficeVersion=MacOS>

Note that Excel 2011 or earlier version on the MAC operating system will not feature the Data Analysis add-in. To install the most updated version of Excel, please visit <http://software.rutgers.edu> to download and install via your Rutgers NetID account.

Assignment Policy:

Readings should be completed before the week's class session. The corresponding reading assignments will be due in Canvas at that time, as well. Modules associated with a given week are due on Wednesdays of the week of class (11:59 pm EST) of that week. Reading assignments can be subject to a late penalty, though I often will not do so. Thus, it is far better to hand in an assignment, even if it is very late than to get a zero on it. It is always better to at least hand an assignment in late than not hand it in at all. Due to university constraints, though, all assignments due over the course of the semester must be handed in on or by December 14 to allow me to get grades completed in time. Also, please see my *Teaching Philosophy* above.

Academic Integrity:

All students enrolled in this course are responsible for abiding by the guidelines outlined in the University's Academic Integrity Policy. You can find the full policy at <http://academicintegrity.rutgers.edu/>. In particular, the principles of academic integrity require that a student do the following:

- *Properly acknowledge and cite all use of the ideas, results, or words of others.*
- *Properly acknowledge all contributors to a given piece of work.*
- *Make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.*
- *Obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.*
- *Treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.*
- *Uphold the canons of the ethical or professional code of the profession for which he or she is preparing.*

Accommodation:

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at <https://ods.rutgers.edu/>.

Student-Wellness Services

Rutgers provides several resources to assist student who may be experiencing distress or mental health concerns. The following are some of the resources that are available to you if you need them.

For more general information and links to receive support for (a) victim and mental health services, (b) academics, and (c) financial assistance (mainly emergencies), see <https://smlr.rutgers.edu/academic-programs/current-students>.

Other resources:

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ www.rhscaps.rutgers.edu/

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / vpva.rutgers.edu/

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

The Office of Disability Services works with students with a documented disability to determine the eligibility of reasonable accommodations, facilitates and coordinates those accommodations when applicable, and lastly engages with the Rutgers community at large to provide and connect students to appropriate resources.

LECTURE TOPICS AND ASSIGNMENTS

Week #1: Introduction and Statistics Review
(9/8)

Week #2: HR Review (from an Analytics Perspective)
(9/15)

Readings:

- Cascio, W. F., Boudreau, J. W., & Fink, A. A. (2019). *Investing in People* (3rd edition). Pearson Education: Upper Saddle River, NJ. (Chapter 1)
- Hammonds, K. H. (2005). Why we hate HR. *Fast Company*, August 2005, Issue 97, 41-47.
- Lytle, T. (2022). 2030 Vision. *HR Magazine*, Winter, 36-43.

DUE:

- **Reading Assignment #1**

Week #3: Scientific Method, Hypothesis Testing, and Evidence-Based Management
(9/22)

Readings:

- Cascio, W. F., Boudreau, J. W., & Fink, A. A. (2019). *Investing in People* (3rd edition). Pearson Education: Upper Saddle River, NJ. (Chapter 2)
- Schwab, D. P. (2004). *Research Methods for Organizational Studies*. Lawrence Erlbaum Associates: Mahwah, NJ. (Chapter 1)

DUE:

- **Reading Assignment #2**

Week #4: Metrics and Measures
(9/29)

Readings:

- Fink, A. A., & Sturman, M. C. (2017). "HR Metrics and Talent Analytics." In D. Collings, K. Mellahi, & W. F. Cascio (Eds.) *The Oxford Handbook of Talent Management*, pp. 375-395. Oxford University Press.

DUE:

- **Reading Assignment #3**

Week #5: The Value of Employee Performance

(10/6)

Readings:

- Cascio, W. F., Boudreau, J. W., & Fink, A. A. (2019). *Investing in People* (3rd edition). Pearson Education: Upper Saddle River, NJ. (Chapter 9)

DUE:

- **Reading Assignment #4**
 - Do this **BEFORE** watching this week's lectures
- **Workbook: Module 1, due 10/8**

Week #6: Estimating the value of human resource interventions

(10/13)

Readings:

- Fu, N., Keegan, A., & McCartney (2023). The duality of HR analysts' storytelling: Showcasing and curbing. *Human Resource Management Journal*, 33, 261-286.

DUE:

- **Reading Assignment #5**

Week #7: Costing Turnover and Absenteeism

(10/20)

Readings:

- Cascio, W. F., Boudreau, J. W., & Fink, A. A. (2019). *Investing in People* (3rd edition). Pearson Education: Upper Saddle River, NJ. (Chapter 4)
- Cascio, W. F., Boudreau, J. W., & Fink, A. A. (2019). *Investing in People* (3rd edition). Pearson Education: Upper Saddle River, NJ. (Chapter 5)

DUE:

- **Reading Assignment #6**

Week #8 Predicting Turnover

(10/27)

Reading:

- Harbert, T. (2020). The people puzzle. *HRMagazine*, 65(4), 39-45.
- Ramamurthy, K. N., Singh, M., Yu, Y., Aspis, J., Iames, M., Peran, M., & Held, Q. S. (2015). A talent management tool using propensity to leave analytics. *IEEE International Conference on Data Science and Advanced Analytics*, 1-10.

DUE:

- **Reading Assignment #7**

Week #9: Engagement, Wellness, and Attitude Metrics

(11/3)

Reading:

- Cascio, W. F., Boudreau, J. W., & Fink, A. A. (2019). *Investing in People* (3rd edition). Pearson Education: Upper Saddle River, NJ. (Chapter 6)
- Cascio, W. F., Boudreau, J. W., & Fink, A. A. (2019). *Investing in People* (3rd edition). Pearson Education: Upper Saddle River, NJ. (Chapter 7)
- O'Brien, M. K. (2023). What's behind the push for public reporting of well-being metrics. *Workspan*, 4, 33-39.

DUE:

- **Reading Assignment #8**
- **Workbook: Module 2, due 11/5**

Week #10 EEO and Diversity Analytics

(11/10)

Reading:

- Cascio, W. F., Boudreau, J. W., & Fink, A. A. (2019). *Investing in People* (3rd edition). Pearson Education: Upper Saddle River, NJ. (Chapter 8)
- TRUSAIC (2021). Creating a culture of diversity, equity, and inclusion: Real progress requires sustained commitment. *Harvard Business Review Analytic Services*.
- Larson, J. (2023). Solving the pain points in pay equity analysis. *Workspan*, 4, 26-30.

DUE

- **Reading Assignment #9**

Week #11: Staffing Analytics

(11/17)

Readings:

- Cascio, W. F., Boudreau, J. W., & Fink, A. A. (2019). *Investing in People* (3rd edition). Pearson Education: Upper Saddle River, NJ. (Chapter 10)
- Shet, S., & Nair, B. (2022). Quality of hire: Expanding the multi-level fit employee selection using machine learning. *International Journal of Organizational Analytics*.
- Maurer, R. (2023). Talent Acquisition. *HRMagazine*, 68(2), 50-53.

DUE:

- **Reading Assignment #10**

Week #12: Training Evaluation and Quasi-Experiments

(11/24)

Readings:

- Cascio, W. F., Boudreau, J. W., & Fink, A. A. (2019). *Investing in People* (3rd edition). Pearson Education: Upper Saddle River, NJ. (Chapter 11)
- Zielinski, D. (2024). AI + HR = ROI. *HR Magazine*, 69(1), 34-43.

DUE:

- **Reading Assignment #11**
- **Workbook: Module 3, due 11/26**

Week #13: Compensation Analytics

(12/1)

Readings:

- Mortensen, M., & Edmondson, A. C. (2023). Rethink your employee value proposition. *Harvard Business Review*.
- Sammer, J. (2024). 6 steps to keep pay up-to-date. *HR Magazine*, 69(1), 45-51.

DUE:

- **Reading Assignment #12**

Week #14: Future of HR and Wrap Up

(12/8)

- Cascio, W. F., Boudreau, J. W., & Fink, A. A. (2019). *Investing in People* (3rd edition). Pearson Education: Upper Saddle River, NJ. (Chapter 12)
- WorldatWork (2021). *People Analytics Study*. March. WorldatWork, Scottsdale, AZ.

DUE:

- **Reading Assignment #13**
- **Workbook: Module 4, due 12/10**

Post-Class Due Dates

December 14

- **Last day to hand in late reading assignments**
- **Last day to resubmit Workbook Modules 1-4**

December 17

- **Workbook: Module 5**