RUTGERS
UNIVERSITY | CAMDEN
School of Business

Human Resource Analytics
52:533:380 INDEX 05113
Term: Spring 2024
Time: TR 11:10AM – 12:30PM
Room: BSB-335

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Office: BSB-229
Help Hours: TR 12:30-1PM or by appointment

COURSE SPECIFICS

Course Description – This course aims to prepare students to examine large datasets related to organizational personnel in line with the growing focus on data analytics within human resource management. Topics will include how to tidy, statistically analyze, and plot data using Microsoft Excel and 'R' statistical software.

Course Learning Objectives:
Upon successful completion of this course students should be able to:

1. Understand the structure of a "tidy" dataset.
2. Understand the general steps of the scientific method.
3. Show a basic understanding of statistics (central tendency, correlation, regression).
4. Independently think of worthwhile research questions.
5. Determine appropriate methods to test research questions and to execute them using Excel and 'R.'
6. Professionally communicate your research plan and results in written and presentation form.

Program Learning Goals:

- Communication effectiveness and impact,
- Technology fluency,
- Ethical consideration

Course Materials*:*

TEXTBOOK:

- Wickham, H. & Grolemund, G. (2023). *R for data science: import, tidy, transform, visualize, and model data*. " O'Reilly Media, Inc.".
    - **NOTE:** Textbook is available for free online at: https://r4ds.had.co.nz/index.html

SOFTWARE:

- Office 365 (Excel and Word will be required)
- R: (https://cran.r-project.org/)
- R Studio: (https://rstudio.com/)

OTHER:

- Narrated lectures, readings, and other posted material is available on the class Canvas site.

Copyright of Course Materials:

All original course materials posted on Canvas, including presentation slides, handouts, and assignments, are intellectual property belonging to the professor. These materials are provided to students for their own personal use only. Students are not permitted to buy, sell, or distribute any course materials without the express written permission of the professor. Such unauthorized behavior constitutes academic misconduct.

How to succeed in this course

- Attend class
- Read all text material assigned for each class
- Follow instructions in all assignments including submitting assignments on time
- Start assignments early and get feedback from the instructor
- Consult/meet with the professor immediately when you need help.
- If an online tool is used (Canvas) ensure that you can access and use it appropriately.

Diversity Statement:

This class strives to be an inclusive community, learning from the many perspectives that come from having differing backgrounds and beliefs. As a community, we aim to be respectful to all. We reject all forms of prejudice and discrimination, including but not limited to those based on age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, and veteran status. Faculty and students are expected to commit to creating an environment that facilitates inquiry and self-expression, while also demonstrating diligence in understanding how others' viewpoints may be different from their own.

Our goal as a learning community is to create a safe environment that fosters open and honest dialogue. We are all expected to contribute to creating a respectful, welcoming, and inclusive environment. To this end, classroom discussions should always be conducted in a way that shows honor, respect, and dignity to all members of the class. Moreover, disagreements should be pursued without personal attack and aggression, and instead, should be handled with grace and care. This will allow for rigorous intellectual engagement and a deeper learning experience for all.

COMMUNICATION

Rutgers email (professor email: joseph.regina@rutgers.edu)

All communications to students will be done using the Rutgers email address provided to you. Please forward your Rutgers email to your personal email if necessary.
Not checking your Rutgers email is not an excuse for missing any communications.

Canvas

Posted will be the syllabus, resources (articles and examples), Power Point slides, announcements, guides, etc. To access this system, go to http://canvas.rutgers.edu log in, and click on the course in the dashboard.

Class Materials

All class materials can be obtained via Canvas.

Class Communication

A viable and reliable form of communication is vitally important. Note that all outside of class communication will be via your Rutgers e-mail and discussion forums and other tools in Canvas. You are expected to check your Rutgers e-mail at least two or three times every week. All class announcements can also be accessed via the 'Announcement' page in Canvas.

Professor Communication

Note that during the week, from Monday until Friday, I will try reply to all e-mails within 48 hours. Please do not expect immediate response. In order to best ensure that I recognize that your email pertains to class, please start the subject line with the course name followed by a dash ("-") and then a brief summary of the content of your question. If you do not hear from me within 72 hours, please re-send your email as I may have overlooked or accidentally deleted your e-mail.

Although, I check my e-mails a few times daily, I may not be able to completely answer all e-mails immediately upon receiving them. Note that I may also be travelling out of town on many weekends and may not be able respond to weekend e-mails until Monday.

GENERAL /ADMINISTRATIVE

Pronouns

This course affirms people of all gender expressions and gender identities. Feel free to correct me on your preferred gender pronoun. If you have any questions or concerns, please do not hesitate to contact me.

Chosen Name (Preferred Name)

If you have a chosen name or preferred name other than what is listed on the roster, kindly let me know. If you would like to have your name changed within the rosters officially, go to: https://deanofstudents.camden.rutgers.edu/chosen-name-application

Key Spring 2024 Dates :

First day of courses for semester	January 16
Last day to drop classes w/o "W"	January 25
Last day to add classes	January 25
Last day to withdraw from an individual class with a "W"	March 18
Spring recess	March 9 – March 17
Regular classes end	April 29
Reading days	April 30 – May 1
Final exam period	May 2 – May 8

POLICY STATEMENTS

Disability Services/Accommodations

The University is committed to supporting the learning of all students and faculty will provide accommodations as indicated in a Letter of Accommodation issued by the Office of Disability Services (ODS). If you have already registered with ODS and have your letter of accommodations, please share this with me early in the course. If you have or think you have a disability (learning, sensory, physical, chronic health, mental health or attentional), please contact https://success.camden.rutgers.edu/disability-services.

Accommodations will be provided only for students with a letter of accommodation from ODS. Their services are free and confidential. Letters only provide information about the accommodation, not about the disability or diagnosis.

Academic Integrity

The Academic Integrity policy can be found at https://studentconduct.rutgers.edu/processes/university-code-student-conduct http://studentconduct.rutgers.edu/student-conduct-processes/academic-integrity/

Students are responsible for understanding the principles of academic integrity and abiding by them in all aspects of their work at the University. Students are also encouraged to help educate fellow students about academic integrity and to bring all alleged violations of academic integrity they encounter to the attention of the appropriate authorities.

Academic Integrity means that you (the student) must:

- 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 your own in a course activity is your own and not from someone else
- obtain all data or results by ethical means and report them accurately
- treat all other students fairly with no encouragement of academic dishonesty

Adherence to these principles is necessary in order to ensure that:

- everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments
- all student work is fairly evaluated and no student has an inappropriate advantage over others
- the academic and ethical development of all students is fostered
- the reputation of the University for integrity is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld. Violations are taken seriously and will be handled according to University policy.

Artificial Intelligence Use

I discourage the use of generative AI tools (e.g. ChatGPT, Dall-e, etc.) within this course. The reason for this is that I think it is more important that you understand how things work than merely that they do when analyzing data. I intend for this course to be useful for your professional development and you do not want to ever have to tell your boss that you made a mistake at work because you had a generative AI do they work for you and it got something wrong that led to a big issue.

If you do use these tools then you are responsible for the information you submit based on an AI query (for instance, that it does not violate intellectual property laws, or contain misinformation or unethical content). *Your use of AI tools must be properly documented and cited to stay within university policies on academic honesty.* AI may not be used on exams or quizzes.

Code of Student Conduct

Rutgers University-Camden seeks a community that is free from violence, threats, and intimidation; is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and does not threaten the physical or mental health or safety of members of the University community, including in classroom space.

As a student at the University, you are expected adhere to the Code of Student Conduct.
To review the code, go to the Office of Community Standards:
https://deanofstudents.camden.rutgers.edu/student-conduct

Note that the conduct code specifically addresses disruptive classroom conduct, which means *"engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."*

Expectations of Classroom Civility (online or in-person)

(source: the Assoc of College and University Educators)

The following protocols on the codes of behavior reflect professional business norms on manners, courtesy, and respect. (***In general, you should treat others as you would like others to treat yourself. Be mindful that what is acceptable in a text or chatroom with friends may not be appropriate in a classroom or in an online conversation with an instructor***.)

- You are expected to do your own work. Cheating, plagiarism, and any other form of academic dishonesty (including uncited use of AI generative tools) will not be tolerated and will result in punished by a zero grade, a failing grade for the course, and/or referral to your dean.
- Meaningful and constructive dialogue is encouraged in this class and requires a willingness to listen, tolerance for different points of view, and mutual respect from all participants. All course members will be expected to show respect for individual differences and viewpoints at all times.

CLASSROOM POLICIES

Assessment Make-up Policy/Late Policy

If, for a university approved reason, you cannot complete an assessment by the scheduled time you must give the professor written notice at least one week in advance so that other arrangements can be made. If the situation does not allow for advance notification (for example, emergency hospitalization), contact the professor as soon as possible after a missed assessment. Make-up assessment for non-university approved reasons are not guaranteed. The professor reserves the right to request written documentation to support your absence (such as a doctor's note, an obituary, or military orders).

Assessments

Participation and Late Work: Lack of participation will be reflected in the final grade. All assignments must be handed in on time; unexcused late work will receive 20% of the total assignment grade off per day late (ex: an assignment worth 100 points would lose 20 points per day). No makeup exams will be scheduled without prior notification and a physician's excuse.

Incompletes and Problems: If you find that you are having trouble completing course work or need further explanation of class topics, please schedule an appointment with me immediately. If you need this class for graduation, you should be sure that your performance is up to standard throughout the course. It is too late to wait until the last week of classes to ask for help. I'm available to meet throughout the entire semester if you need help. "Incompletes" will only be given through prior consultation, under extreme circumstances.

The course is graded out of 1000 points. Please see the Grading section for how grades are calculated.

Participation (100 points)
The nature of this course is such that the concepts from one week build on the next. You can think of it as being somewhat similar to a math class in that it would be difficult to learn multiplication if you didn't know addition. Because of that, it is extremely imperative that you remain up-to-date with the course materials and attend class so that I can teach you some of these very useful but perhaps novel skills. With that in mind, I want to reward the behavior that I'm seeking (that you attend class to engage with the course material), and, thus, 10% of your class grade is based on class attendance.

Specifically, attendance will be taken on designated attendance days. Those who are present will receive points for participation for that day. There are 20 scheduled class assignment days (identified on course calendar) that will be used to calculate your overall participation grade with each worth 5 points.

In the event of an ***excused*** absence, a student can provide a response paper to that week's lecture to receive full participation points for that day. The response paper should cover an overview the methods taught and why they are useful/valuable within an HR analytics context. The response paper must be 2-3 pages (double spaced, 1" margins, Times New Roman) and is due within 48 hours of the missed class. *If two classes are missed in a week, then the student must complete (1) the aforementioned response paper for missing the first day, and (2) outline and explain an HR-related research question that could be tackled using the methods taught during the given week.* Each paper will be due within 48 hours of each missed class.

Syllabus Quiz (30 points)
To do well in the course, you will need to be familiar with the nature of how the course is structured; this begins with reading the syllabus. To incentivize you to engage with this material, I am assigning a quiz that will cover the material in the syllabus. The quiz will be 20 questions and each will be worth 1 point, which will account for 20 of the 30 points assigned to this quiz. The final 10 points will be awarded if you answer all questions correctly and you will have unlimited tries on this exam.

Statistics Skills Assessment (30 points)
If you are going to be working with data, then it is imperative you understand what you are doing with the data and that begins with a general understanding of statistics. In line with that, I have to know where everyone is beginning in their statistics journey so that I can most effectively teach the class via knowing what I do and don't have to spend more time on.

To determine this, I am assigning a skills assessment that will be 15 questions covering introductory statistics topics, such as identifying the mean, median, and mode, identifying whether the relationship between two variables is positive or negative, and the difference between correlation and regression. The quiz will be open book and the information needed to answer all questions on the quiz will be found within the two Methods Refresher lectures.

Importantly, this is a participation assignment and you will receive full credit as long as you complete the assignment.

'R Studio' Screenshot (30 points)
The first few weeks of the course will focus on using Microsoft Excel. After that, we will transition to 'R' which is an easy-to-use programming language that can be thought of as allowing you to do what Excel does but in using a faster, more powerful, and more reproducible tool. To save class time I want you to download 'R' and 'R Studio' outside of class and submit a screenshot of the R Markdown landing page. The links to download both can be found above under the Software sub-section the Course Materials section. I am happy to help you download the programs during help hours.

Weekly Assignment (240 points)
For 8 weeks of the course, you must complete an analysis that will require you to use the material from the respective week. Each assignment will be worth a maximum of 30 points. The assignments will be released and at least partially done during the Thursday lab period and due the following Wednesday.

Two of these assignments will be done with Excel. For these assignments, you will submit a word document with the relevant data included in your responses.

The other six of these assignments will be done within R. For these assignments you will submit your reproducible 'R Markdown' code. Given this, it is critical that you submit this assignment following the reproducible research procedures demonstrated in the fourth week of the course. For these assignments, you are expected to (1) write code to solve the assigned problems, (2) document your code and its logic, and (3) write narrative text to accompany your code as part of a larger report.

Group Presentations (120 points)
In lieu of a midterm exam, students will give one 8-minute (or less) presentation in groups of two on an assigned prompt. Specifically, students will be expected to use the lessons taught in the first half of the semester to provide a brief overview of how they may opt to go about answering the question within the given prompt. Students can use either R or Excel for this assignment.

Group Peer Evaluation (30 points)
To help ensure equal participation, each group member will provide a brief peer evaluation for each member of their team following the group's final presentation. 30 points will be received for submitting your group peer evaluation.

Individual Project (370 points *total*)
At the end of the course, you will be required to submit a report wherein you choose an HR-related dataset, import it, wrangle it, and produce analytic results and visualizations to address a research question of interest to you. Several HR analytics datasets will be provided in class, and you are free to use any of them. Students can use either R or Excel for this assignment. This project will have three components:

Part 1: Individual Project Idea (20 points)
To ensure that everyone is staying on pace to complete the individual project presentation, you will submit a brief writeup (no page minimum) that covers the following information:

1. The question you are aiming to answer.
2. The dataset you will use to answer the question.
3. The variables within that dataset you will use to answer the question.
4. The program you plan to use (R or Excel).

Part 2: Individual Project Presentation (125 points)
You will be asked to present your research project plan prior to executing and then writing up your analysis. The style of this presentation will cover information about the dataset and the variables within it that you are using, the intended research question, rationale for why the research question is worth investigating, and the planned analyses. During this project, the instructor and other students within the class will provide suggestions related to additional analyses or alternatives ways to use the data to investigate the problem which may be implemented prior to the final report.

Part 3: Individual Project Paper (225 points)
You will be asked to write a report that would be deliverable to a business audience. Reports will include what your research question is, rationale for why the research question is worth investigating, detail on how it was analyzed (including dataset information as well as wrangling and analysis descriptions), relevant results and visualizations, and takeaways based on the results. Reports will have no minimum page length.

Course reflection paper (50 points)
In lieu of a final exam, you will write a minimum 1 full single-spaced page single-spaced report (i.e., your paper should go onto page 2) on what you learned and what material found useful in the course as well as one way in which you may be able to use R or Excel in any future work, classes, hobbies, etc.. This will be due at the end of the course's designated finals time slot.

Extra Credit (25 points each, up to 50 points): Tidy Tuesday Analysis

- Each week the Tidy Tuesday project provides a dataset along with publicly shared code to provide opportunities for individuals to practice data science. For this assignment, any Tidy Tuesday

dataset can be used. Tidy Tuesday datasets can be accessed here: https://github.com/rfordata-science/tidytuesday

- For extra credit, students can submit a report that outlines the research question they sought to investigate, what they did to provide information about the question, a table or visualization that outlines their result, and their takeaways based on their results. Reports will have no minimum page length and do not have to limited to an HR/business topic (i.e., you can write the report on any topic you find interesting from sports to movies to music to makeup to the most popular brands of pasta to anything else that you can find a dataset for).
- *Each report will be worth 25 extra credit points. You may complete up to two article response papers to earn a maximum of 50 extra credit points. Should you choose this extra credit option, the* ***response papers are due*** **the day before the university's designated reading days for the semester.**

GRADING

The assignment of final grades will be weighted as follows:

Attendance 10%	100 points	5 per required day
Syllabus quiz 3%	30 points	
Basic statistics skills assessment 3%	30 points	
R Studio screenshot 3%	30 points	
Weekly assignments..... 24%	240 points	30 per assignment
Group presentation..... 12%	120 points	
Group presentation peer review..... 3%	30 points	
Individual project idea..... 2%	20 points	
Individual project presentation 12.5%	125 points	
Individual project paper 22.5%	225 points	
Course reflection 5%	50 points	
EXTRA CREDIT: Additional projects	50 points	25 per submission

Grade Ranges

Letter Grade Description

A: 89.5% and above (895 points or more)
B+: 87.5% to 89.4% (875 to 894 points)
B: 79.5% to 87.4% (795 to 874 points)
C+: 77.5% to 79.4% (775 to 794 points)
C: 69.5% to 77.4% (695 to 774 points)
F: Below 69.5% (less than 695 points)

COURSE OUTLINE AND ASSIGNMENTS
Syllabus Basics

Week	Date (T/R)	Topic	*Recommended* Reading Assignment***	Other notes
1	Jan 16 Jan 18**	Welcome to HR Analytics Methods refresher	Syllabus	Syllabus quiz due Jan 22nd
2	Jan 23** Jan 25**	Methods refresher Basic Excel (tidy data, finding functions, filter)	 Chap 12	Basic statistics quiz due Jan 29th
3^	Jan 30** Feb 1**	Analyzing and visualizing data in Excel Analyzing and visualizing data in Excel		
4^	Feb 6** Feb 8**	Pivot Tables in Excel Introduction to R, R Studio, & R Markdown	Chap 1-4, 11	R Studio screenshot due Feb 7th
5^	Feb 13** Feb 15**	Exploring data: ggplot & dplyr Exploring data: ggplot & dplyr	Chap 5-8	
6^	Feb 20** Feb 22**	Exploring data: ggplot & dplyr Exploring data: ggplot & dplyr	Chap 9, 13-16	
7^	Feb 27** Feb 29**	Tidy data, tidyr, if-else, merging Tidy data, tidyr, if-else, merging	Chap 17-18	
8^	Mar 5** Mar 7**	Making tables: tibble, broom, & flextable Making tables: tibble, broom, & flextable	Chap 10	Group project partners assigned Mar 6th
NA	*Mar 12* *Mar 14*	*No class. Spring break. Have fun!*		
9^	Mar 19** Mar 21**	Writing functions Writing functions	Chap 19	
10	Mar 26 Mar 28**	Group projects Guest speaker: Kendra Davis-Roberts (People Analytics Strategist, HP Inc.)		The below assignments are due April 1st: -Ideas for individual presentation -Group partner peer evaluation
11^	Apr 2** Apr 4**	Text analysis Text analysis		
12	Apr 9 *Apr 11*	Individual project presentations *No class. Please use this time for individual paper preparation*		No weekly assignment due
13	Apr 16 *Apr 18*	Writing papers within R: papaja & rticles *No class. Please use this time for individual paper preparation*		
14	Apr 23 Apr 25	In-class analysis for individual paper In-class analysis for individual paper		Individual paper due April 29th
NA	Apr 30 May 1	*No class. University reading days*		
Course Reflection Due Thursday, May 2nd by 11:59PM EST				

NOTES:

1. All out-of-class assignments are due on the stated date by 11:59PM EST. I will give a 30-minute grace period on these assignments but not a minute more. Assignments submitted the following morning after 12:29AM EST will incur the 20% of the project's allotted points lateness penalty. Each 24-hour period after that will incur another 20% of the project's allotted points lateness penalty
2. All weekly assignments are due the following Wednesday. For example, the weekly assignment for Week 3 will be released on Thursday, February 1st and will be due Wednesday February 7th.

I reserve the right to modify this syllabus when deemed necessary and appropriate to accomplish the goals of the course. Any changes/modifications will be announced in class or via email.