HR Data Based Decision Making

Course #: 38:533:542:02

Spring 2026

Instructor:	Rania Elanwer, Ph.D.
Email:	re308@.rutgers.edu
Course Meeting:	**In-Person** Class meetings will be held at JLB-006 on Thursdays between 4:30 PM-7:10 PM
Students Hours:	I will hold student hours each week in my personal ZOOM room: Day and Time: Wednesdays from 9:30am- 10:30am https://rutgers.zoom.us/my/re308 *If the available time does not work for you, no worries. Send me an email to set up an alternative time.
Course Website:	Canvas.rutgers.edu (please regularly check Canvas for syllabus, course info, and other announcements)

COURSE DESCRIPTION

HR Data-Based Decision Making is designed to develop students' proficiency in the statistical concepts and analytical techniques that are increasingly essential to the modern Human Resource function. As organizations rely more heavily on data to guide strategic and operational decisions, HR professionals are expected to understand, interpret, and communicate analytical findings using the same evidence-based language used across the business.

This course emphasizes building foundational statistical literacy so that students can effectively engage with data, evaluate analytical results, and apply insights to HR-related decisions. Rather than focusing solely on technical computation, the course prioritizes interpretation, critical thinking, and practical application of data in organizational contexts.

Through this course, students will learn how to understand HR data, assess analytical outputs, and use evidence to support decision-making and collaboration with internal stakeholders. These skills are essential for functioning effectively as an HR professional and for contributing meaningfully to data-driven organizational initiatives.

LEARNING OBJECTIVES

This course addresses many of the core SMLR learning objectives. In particular, each of the main learning activities map to one or more of the SMLR learning objectives:

By the end of the course, you will be able to:

1. Navigate simple and complex data sets
2. Propose relevant research questions and hypotheses
3. Identify appropriate data and statistical tests for many HR problems and decisions
4. Analyze data with Microsoft Excel
5. Interpret the meaning of basic statistical tests
6. Create professional illustrations of statistical results (e.g. charts, tables and figures)
7. Effectively communicate your results and findings (in writing)
8. Critically evaluate and interpret quantitative information

COURSE FORMAT

We will largely follow the “flipped classroom” model of instruction for this course. There are many excellent online learning materials available (for free) that teach you the core ideas more effectively and more flexibly than a traditional classroom style lectures. We will use these learning materials for your out-of-class learning. When you come to class we will mostly focus on workshops and exercises that give you opportunities to apply the concepts you are learning to the HR context. In other words, generic stats learning outside of class, HR focused stats learning inside the classroom.

This class will give you some basic statistics skills and then help you apply those skills to HR data in order to generate useful insights that may improve HR decision making.

There is no textbook for this class. Instead, we will use free (and high quality) online resources to help you: (1) gain basic stats skills and (2) gain basic Microsoft Excel skills. You will do this learning on your own time before our class sessions. I expect you to do the work to become proficient in the assigned skills BEFORE you come to class for the day. This is different from "watch these videos and do these practice problems." Instead, the idea is: do whatever work you need to do on the learning platform to be sure that you are proficient before you come to class. For some students and some class sessions you will find that you are already proficient and your pre-work is minimal. For other students and other class sessions you may find that you need to invest several hours of work with videos, exercises and learning activities on the learning platform before you are proficient enough to be ready for our class session.

During class sessions we will apply the skills you have learned before class through exercises and activities. This class is very specifically designed with a "flip-the-classroom" model because many students come into the class with different basic stats skill levels, so this levels the playing field before our scheduled class sessions. Preparing for class is not about how much time you put in, or making sure that everyone does the same amount of work, it is about making sure that everyone has the same skills proficiency.

COURSE MATERIALS

There are no materials to purchase for this course. You will need your own user account for Khan Academy (which is free). See Canvas for a specific link to our Khan Academy class. You will need Microsoft Excel, which is free for Rutgers students.

TECHNOLOGY POLICY

Electronic devices (e.g., laptops, tablets, cell phones, etc.) are permitted only for activities directly related to the designed learning experiences in the classroom. The use of electronic devices for any other purpose will negatively impact your individual course contribution evaluation (see below). If you choose to use electronics in class, then it is your responsibility to use your device in a manner consistent with the learning objectives.

ASSIGNMENTS

The primary assessments in the course are as follows:

Graded Category	**Percentage**	**Description**
Individual Projects	50%	Complete five group projects during the semester.
Khan Academy Skills	35%	Demonstrate skills proficiency on stats skills through Khan Academy assessments
Class Engagement	15%	Engage in class sessions and class activities
TOTAL	100%	

Grades will be assigned according to the traditional cut-offs used at Rutgers:

90-100% = A

85-89.9% =B+

80-84.9% = B

75-79.9% = C+

70-74.9% = C

< 70% = F

SMLR AND RUTGERS POLICIES

This course also follows the standard guidelines and policies of the School of Management and Labor Relations and Rutgers University.

ILLNESS AND RELIGIOUS OBSERVANCE POLICIES

It is important for all of us to do our part to reduce the spread of illness, so please stay home when you are sick and may be contagious. Additionally, you may have class sessions that you need to miss due to religious observance or unplanned personal emergencies.

All students can miss one class day with no questions asked. Additional absences may have a negative effect on individual contribution assessments for the semester. Please let me know if you need to miss multiple class sessions for illness, personal emergencies and/or religious observances. We can work together for a fair and reasonable solution.

Course Schedule

Week	Date	Topic
Week1	01/20	**Welcome and Course Introduction** • Role of statistics and data in HR decision-making • The Process of Making Fact-Based Decision • Introduction to Excel
Week2	01/26	**Introduction to statistics concepts** **Identifying the Business Problem** • Framing HR problems, decisions, and questions that analytics will address. • How to connect organizational problem to testable hypotheses **Project 1:** Identifying the business problem and framing the research question.
Week3	02/02	**Data Collection Methods** • Sampling and sampling methods • Bias in sampling • Validity and reliability Part
Week 4	02/09	**Project 2:** Troubleshoot project 2. Bring your questions and concerns
Week 5	02/16	**Analyzing and visualizing data** • Preparation for Basic Stats • Qualitative and quantitative data • Summarizing data

Week 6	02/23	**Analyzing and visualizing data** **Preparation for Basic Stats** • Measures of central tendency • Measures of dispersion
Week7	03/02	**Analyzing and visualizing data** **Preparation for Basic Stats** • Measure of Position • Which measure to report
Week8	03/09	**Project 3** Troubleshoot project 3. Bring your questions and concerns
	03/16	**Spring Break**
Week9	03/23	**Cleaning and transforming data** **Project 4**
Week10	03/30	**Correlation (working with two or more variables)** • What is a correlation • Working with and describing data through correlations • Visualizing relationships between two variables
Week11	04/06	**Hypothesis Testing and Probability (T-tests)** • What are inferential statistics? • What is a null (vs. a research hypothesis)?
Week12	04/13	**Project 4** Troubleshoot project 4. Bring your questions and concerns
Week13	04/20	**Regression Analysis** • What is the difference between correlation and regression? • What research questions are answered with simple regression?
Week14	04/27	**Project 5:** Troubleshoot project 5. Bring your questions and concerns
Week15	05/04	**Final project submission**