# Open Data with R

Last Updated: Sat, 08/02/2025

**Course prefix:** GT

**Course number:** 4801

**Section:** C

**CRN (you may add up to five):**
87209

**Instructor First Name:** Jay

**Instructor Last Name:** Forrest

**Semester:** Fall

**Academic year:** 2025

**Course description:**

Open Data with R is an introduction to data analysis with the R statistical programming language using the principles of Open Science as a framework. This class will cover importing, transforming, visualizing, modeling, and communicating data with R software in an open manner.

**Course learning outcomes:**

The goal of the course is to familiarize students with data analysis using R. Upon successful completion of Open Data with R, you will have a foundation to:

1. Advance comprehension about Open Science principles including: data sharing, open data tools, and open reproducible research.
2. Identify how to input data from a variety of formats into R (readr)
3. Describe how and why to transform data in R (dplyr, tidyr, stringr)
4. Explain how to visualize data with R (ggplot2)
5. Be able to conduct Exploratory Data Analysis in R
6. Be able to create basic statistical models in R (, lm, rpart)
7. Be able to communicate and share data (RMarkdown language)

**Required course materials:**

**Course Reference**

This is a "no-cost materials" course and all reading material will be available open access or through the library e-book collection. The course will draw from *R for Data Science* by Hadley Wickham and Garrett Grolemund, O'Reilly, 2016.  The textbook is freely available

online: https://r4ds.had.co.nz/ Links to an external site.

**Grading policy:**

Points are awarded based on attendance, participation in the online discussion forums, weekly project checkpoints, and a group/individual project:

- **Attendance and Participation (weekly):** 25 points
- **Discussion Posts (weekly):** 20 points
- **Project Checkpoints (weekly):** 20 points
- **Course Project:**
    - Presentation, Poster Presentation and/or Written Report 30 points
    - Constructive Feedback on another's course project: 5 points

Open Data with R is offered as a Letter Grade:

- A:  90-100
- B:  80-90
- C: 70-80
- D: 60-70
- F: < 60

**Attendance policy:**

Attendance and participation are graded and recommended.  Attendance includes attending the R studio workshops scheduled during class time and participating in the discussion forum.  Participation includes executing example code in R and posting discussion responses to other's work.  If you cannot attend a class, please let me know, for attendance credit you will need to watch the recording and send screenshots of your running R code.

**Academic honesty/integrity statement:**

Students are expected to maintain the highest standards of academic integrity. All work submitted must be original and properly cited. Plagiarism, cheating, or any form of academic dishonesty will result in immediate consequences as outlined in the university's academic integrity policy.