

# BIOF 439: Data Visualization with R

This course will demonstrate and practice the use of R in creating and presenting data visualizations. After a short introduction to R tools, especially the tidyverse packages, the course will cover principles for data visualization, examples of good and bad visualizations, and the use of ggplot2 to create static publication-quality graphs. Students will also have the chance to learn about modern web-based interactive graphics using the htmlwidgets packages as well as dynamic graphics and dashboards that can be created using flexdashboard and Shiny. The course will explore ways in which bioinformatics data can be presented using static and dynamic visualizations. Finally, RMarkdown and other packages will be used to develop webpages for presenting data visualizations as self-explanatory and possibly interactive storyboards.

## Learning Objectives

- Understand principles of good data visualization to avoid poor or inappropriate data visualization
- Gain knowledge of appropriate use of color, symbols, and small multiples
- Learn about static and dynamic data visualizations, using the web as a presentation medium

**Credits:** 1

**Class Type:** Graduate Course

**Prerequisites:**

none, however, BIOF 339 Practical R or equivalent introductory course to R would be useful.

**Program:** Bioinformatics and Data Science

**Availability** Summer 2021