

Syllabus – Statistician’s Toolkit in R for Data Science (STaR-DS)

Course Information

Course Title: Statistician’s Toolkit in R for Data Science (STaR-DS)

Meeting Time: Tue, Apr 28, 12:30–5:30 pm

Location: Hyatt Regency Milwaukee

Website: <http://tinyurl.com/STAR-DS>

Instructor Details

- **Instructors:** Mehdi Maadooliat & Jaihee Choi & Daniel Cirkovic

Course Description

This short, intensive course equips participants with practical, modern **R** skills to extend, optimize, and share their work. Over three sessions you’ll learn how to build Shiny apps, speed up code with Rcpp, call Python from R with **reticulate**, build professional R packages, and collaborate on GitHub—including an overview of the CRAN release process.

Learning Outcomes

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

- Build interactive Shiny web applications.
- Improve performance by interfacing with C++ via **Rcpp**.
- Integrate Python into R workflows using **reticulate**.
- Develop, document, test, and share professional R packages.
- Use Git/GitHub for version control, releases, and prepare for CRAN submission.

Prerequisites

- Working knowledge of R and basic data analysis concepts.
- Some familiarity with the command line and version control is helpful (not required).

Materials

- **Primary Resource:** Course website — <https://tinyurl.com/STAR-DS>
- Supplemental tutorials, templates, and datasets will be provided in class.

Assignments & Assessment

- **Optional Mini-Project:** Create a small R package or Shiny app integrating course concepts.

Attendance

Active participation is expected; sessions build on each other.

Important Note

This syllabus may be updated; any changes will be announced in class and on the course website.