ESRM 6990V: Advanced Seminar - Intro to R

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1 Web Books

- 1. Introduction to Data Science Part I Data Wrangling and Visualization with R by Rafael A. Irizarry
- 2. Introduction to Data Science Part II Statistics and Prediction Algorithms Through Case Studies by *Rafael A. Irizarry*
- 3. R for Data Science Visualize, Model, Transform, Tidy and Import Data by *Hadley Wickham & Garret Grolemund*
- 4. Yet Again: R + Data Scienceby Albert Rapp
- 5. Happy Git and GitHub for the useR by Jennifer Bryan
- 6. R Programming for Data Science by Roger D. Peng

2 R Community

1. RWeekly.org

3 Publications

4 Outline

- 1. R Basics
- 2. Data Visualization
- 3. Data Wrangling
- 4. Productive Tools

5 Why ITDS?

This book is free and comprehensive for a broad R tasks of data analysis. For example, the book covers R programming (**basics of R**), data wrangling with **dplyr**, data visualization with **ggplot2**, file organization with **Unix/Linux shell**, version control with **Git/Github**, and reproducible document preparation with **Quarto** and **knitr**.

6 Schedule

Following materials are only allowed for previewing for students registered in ESRM 64503. DO NOT DISTRIBUTE THEM on the internet. They will be removed after the course ends.

Week	Date	Topic	Reading	HW	Code/Data
1	01/13	Lecture 1: Basics of R	ITDS Ch.1		_
2	01/20 (Class)	No Martin Luther King Holiday			
3	01/27	Lecture 2: Program- ming Basics			
4	02/03	Lecture 3: Write academic reports with R projects and Quarto markdown	-		
5	02/10	Lecture 4: Data summa- rization with <i>tidyverse</i>	-		
6	02/17	Lecture 5: Data clean- ing with <i>tidy</i> - verse	-		
7	02/24	Lecture 6: Data transformation with tidyverse	-		
8	03/03	Lecture 7: Data Import- ing			
9	03/10	Lecture 8: Data Visual- ization I with ggplot2	-		
10	03/17	Lecture 9: Data Visu- alization II	-		
15	04/95 (class)	No Rithment et a. Comment of the Com	-	ξ	