**Intermediate R Outline**

Week 1-2: Data Manipulation with dplyr

Assignment 1: Data Manipulation with dplyr, chapters 1, 2, 3

Intro to dplyr and tbl

Select and mutate

Filter and arrange

Assignment 2: Data Manipulation with dplyr, chapters 4, 5

Summarise and pipes

Group\_by and working with databases

Week 3: Control Structures: Loops and Conditionals

Assignment 3: Intermediate R, chapters 1, 2

If/else, conditionals

Loops: for, while

Week 4 Writing functions and the “apply” functions

Assignment 4: Intermediate R, chapters 3, 4

Writing functions

The “apply” family

Week 5: Utilities in R + Parallelization

Assignment 5: Intermediate R, chapter 5

Finding errors

Regular expressions

Assignment 6: Parallelization and Efficiency

The doParallel and foreach packages

Using system.time

Week 6-7: Tools for Reproducibility

Assignment 7: Reporting with R Markdown, chapters 1,2,3

Intro to Markdown

Embedding code

Compiling Reports

Assignment 8: Writing Notebooks + Github

Writing Jupyter/R Notebooks

Using Github for version control