Computing for Scientists – Tentative Schedule

Mon Aug 30: Introduction to the Course and Tools
Wed Sept 1: Linux, Bash, and console editors

Mon Sept 6: (No class, Labor Day)
Wed Sept 8: Version Control with git

Mon Sept 13: More git, Managing Projects with Github
Wed Sept 15: Intro to *R* | Wickham Chs. 1–4 as needed | Midterm coding topic due

Mon Sept 20: Documenting your work for reproducibility with R Markdown
Wed Sept 22: Discussion: Best Practices in Scientific Computing | Wickham Ch. 5, assigned paper

Mon Sept 27: More basics in *R* | Wickham Chs. 6, 8 as needed
Wed Sept 29: Testing Code in *R* | Test-Driven Development Article, Testing in R Chapter

Mon Oct 4: Debugging code and Defensive Programming | Wickham Ch. 9 as needed
Wed Oct 6: Refactoring code | When to Refactor Article | Midterm coding project due Friday

Mon Oct 11: Providing Critical Feedback (Assessment tool development)
Wed Oct 13: Profiling and optimizing code in *R* | Wickham Chs. 16 & 17, Profiling with RStudio

Mon Oct 18: Using memory efficiently | Wickham Ch. 18
Wed Oct 20: Parallel processing |

Mon Oct 25: Statistical and data analysis tools in *R* continued | Chosen topic
Wed Oct 27: Statistical and data analysis tools in *R* | Chosen topic

Mon Nov 1: Advanced shell programming.
Wed Nov 3: Shell programming cont. Midterm project revision due Friday

Mon Nov 8: Interacting with clusters | Keck Cluster Intro Materials
Wed Nov 10: Basic Principles of Data Visualization

Mon Nov 15: Discussion: Lies, Damn Lies, and Statistics: the Ethics of Data Visualization | Assigned paper

Wed Nov 17: Preparing figures for publication & presentation

Mon Nov 22: (No class, Thanksgiving)
Wed Nov 24: (No class, Thanksgiving)

Mon Nov 29: Preparing scientific publications
Wed Dec 1: Archiving your data

Mon Dec 6: Discussion: Data reproducibility in scientific publications | Assigned paper

Final Project Writeup due Monday, December 13 at 4:15 pm