

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* | [Hadley Chs. 1–4 as needed](#) | Midterm coding topic due

Mon Sept 20: More basics in *R* | [Hadley Chs. 6, 8 as needed](#)

Wed Sept 22: Discussion: Best Practices in Scientific Computing | [Hadley Ch. 5, assigned paper](#)

Mon Sept 27: Documenting your work for reproducibility with R Markdown

Wed Sept 29: Debugging code and Defensive Programming | [Hadley Ch. 9 as needed](#)

Mon Oct 4: Testing Code in *R* | [Test-Driven Development Article](#), [Testing in R Chapter](#)

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* | [Hadley Chs. 16 & 17, Profiling with RStudio](#)

Mon Oct 18: Using memory efficiently | [Hadley Ch. 18](#)

Wed Oct 20: Statistical and data analysis tools in *R* | Chosen topic

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

Wed Oct 27: Parallel processing | Midterm project revision due

Mon Nov 1: Advanced shell programming.

Wed Nov 3: Shell programming cont.

Mon Nov 8: Interacting with clusters | [Keck Cluster Intro Materials](#)

Wed Nov 10: Basic Principles of Data Visualization

Mon Nov 15: ggplot2 in *R* | [Chang Appendix A](#)

Wed Nov 17: Discussion: Lies, Damn Lies, and Statistics: the Ethics of Data Visualization | [Assigned paper](#)

Mon Nov 22: (No class, Thanksgiving)

Wed Nov 24: (No class, Thanksgiving)

Mon Nov 29: Preparing figures for publication & presentation

Wed Dec 1: Preparing scientific publications

Mon Dec 6: Archiving your data

Wed Dec 8: Discussion: Data reproducibility in scientific publications | [Assigned paper](#)

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