

# 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, as-signed 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:** 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**