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

**Mon Sept 27:**   More basics in $R$ | Wickham Chs. 6, 8 as needed
**Wed Sept 29:**   Debugging code and Defensive Programming | Wickham 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 $R$ | 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**