

Overview

ESM 262 is an introduction to computing for environmental applications. Topics include: the basic computing environment (hardware and operating systems); programming language concepts; program design; data management, data structures and their implementation; software tools; workflows, version control, and reproducibility; generic analytical techniques (relational algebra, graphical analysis, visualization, etc.); and specific characteristics of environmental information. The course features **R** for programming, **Git** for version control, **Markdown** for documentation, and **GitHub** for collaboration and publishing.

Topics will be presented in weekly 3-hour modules mixing lectures and hands-on examples, using students' own computers. Previous programming experience is recommended but not required..

Instructors

- [Naomi Tague](#) [NT] tague@ucsb.edu
Office hours: TBD
- [James Frew](#) [JF] frew@ucsb.edu
Office hours: [by appointment](#)

Venue

Fridays 08:30-11:30 in Bren 1424

Syllabus

week	date	instructor	topics
1	07 Apr	JF	software installation; Git; Markdown
2	14 Apr	NT	R introduction; Rmarkdown
3	(21 Apr)		NO MEETING (Bren GP presentations)
4	28 Apr	JF	data ingest
5	05 May	JF	data cleaning
6	12 May	NT	visualization; ggplot
7	19 May	NT	software engineering; R functions & modules

week	date	instructor	topics
8	26 May	NT	software testing & documentation
9	02 May	JF	publishing interactive data; shiny
10	09 Jun	JF	spatial R

'have to reschedule