

Course schedule:

Modifications may need to be made to this schedule as the semester progresses.

Week	Topic	Assignment
1 (1/10)	Open Science framework FAIR data Version control (git, github)	PS 1 – git and github
2 (1/17)	Initial data access and exploration Basic plotting in python Oceanographic databases and repositories	PS 2 – exploratory data analysis
3 (1/24)	Oceanographic toolboxes Mapping toolboxes	PS 3 – building a function for accessing data using an API
4 (1/31)	NO CLASSES	
5 (2/7)	Building packages and sharing code Collaborative workspaces	PS 4 – documenting and sharing your code (builds on PS3)
6 (2/14)	Machine Learning overview Introduction to scikit-learn	
7 (2/21)	Supervised Learning Overview of algorithms Training and testing algorithms	PS 5 - building a simple classification model with scikit-learn
8 (2/28)	Unsupervised learning Clustering Classification	PS 6 – building a regression model with scikit-learn
9 (3/7)	NO CLASSES – SPRING BREAK	Deadline for capstone project approval
10 (3/14)	Model evaluation Cross-validation (dealing with small training sets)	
11 (3/21)	Capstone project development	PS 7 – project outline
12 (3/28)	Machine Learning applications in oceanography Paper discussion (student-led)	
13 (4/4)	Capstone project hacking	
14 (4/11)	Capstone project hacking	PS 8 – project and code review (peer evaluation)
15 (4/18)	Data analysis project hacking In-class capstone presentations	Capstone Project Due (published github repository)