MA 591-004: Scientific Programming with Python

Spring 2020

Instructor Arvind K. Saibaba, **Contact**: asaibab@ncsu.edu, https://asaibab.math.ncsu.edu/
Time: F 1:55-2:45 PM, **Location**: SAS 1216
Office: SAS Hall 3118, **Office Hours**: TBA

Course Description   Python is a high-level, interpreted language that has emerged as a powerful tool for scientific computing. This 1 credit course will cover software tools required for research in scientific computing. While much of the course will focus on programming in Python, additional topics such as version control, shell scripting, and unit testing will also be covered. Topics include

- Basics (Variables/Loops/Conditionals/Data Structures).

- Object oriented programming.

- Plotting (matplotlib).

- Scientific Computing packages (NumPy/SciPy).

Target audience   The target audience of this course includes graduate and undergraduate students with an interest in scientific computing.

Prerequisites   Graduate standing or consent of instructor. Some higher level programming background (e.g., C++/MATLAB) is desirable.

Required Work   Grade will be determined based on attendance, one problem set, and a short project (these are due at the end of the semester.

Textbook   No textbook required. Online material will be provided.