
PRE-MEETING SHORT COURSE #1

PRACTICAL PYTHON FOR EARTH SCIENTISTS

DATE: September 12th (1 day, 8:00 a.m - 4:00 p.m.)

INSTRUCTOR: *Matthew Bauer*
matthew.w.bauer.pg@gmail.com

DESCRIPTION: Practical Python for Earth Scientists is a hands-on course intended to introduce basic concepts and give working examples of Python code that can be used in daily geoscience workflows. No prior knowledge of Python or other programming languages is necessary to attend this course.

Who should attend?

This course is tailored for geologists, geophysicists, petrophysicists, petroleum engineers, production engineers, landmen, and anyone else that would like to gain skills in practical Python programming, data mining, and machine learning. While this course will use examples from the petroleum industry, any earth scientist will benefit from learning about geospatial and subsurface data analysis.

Course Goals:

- Introduce the Python programming language for the geoscientist.
- Introduce Python libraries that allow integration into other software programs through reading, manipulating, and writing LAS well logs and shapefiles.
- Provide hands-on examples of the application of Data Mining, Machine Learning, and Data Analytics to solve problems faced by a petroleum geologist.
- By the end of the course, students should be able to adapt the provided examples for use with their own data.

Topics covered:

- Basic Python syntax
- Loops and functions
- Sorting and plotting data (pandas and matplotlib)
- Geospatial data (e.g., shapefiles)
- Well logs (las files)
- Data scraping
- Machine-learning (unsupervised and supervised methods)

Course requirements:

Bring your own laptop with administrator rights - you will need admin rights to install python. No experience required in Python or other programming language.

PARTICIPANT LIMIT: 15

COST: TBD