Center for Marine Environmental Sciences

Bremen International Graduate School for Marine Sciences

Early Career Researcher Support Programme

Basic Skills and Methods Course

An Introduction to Programming in Python

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MARUM – Center for Marine Environmental Sciences, University of Bremen

20-22 September 2022
09.00-13.00 hrs.

Objectives

Python is an open-source, general purpose programming language which has rightfully gained much popularity in science. It comes with a rich collection of already existing bricks of classic numerical methods, plotting or data processing tools. Python syntax is simple, avoiding strange symbols or lengthy routine specifications that would divert the reader from mathematical or scientific understanding of the code.

This course will provide an introduction to effectively using Python for everyday research needs. Upon completion of the course, participants will be able to read and write data in different formats, intuitively work with and perform simple statistical analyses on their data, and present their analysis in a variety of plots.

Topics

- Installation of Python (using Anaconda)
- Installation & usage of Jupyter Notebooks
- Python syntax and structure
- Variables, types and values
- Operators and operands
- Conditionals
- Iteration
- Tuples, lists and dictionaries
- Functions
- Classes and objects
- Python modules
- Handling scientific data

Methods

The course will consist of lectures/demonstrations, but will also include time for independent work on tasks and joint discussions on code solutions and other questions you may have.

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Software used during the course

In the course, we will use Python and Jupyter notebooks. A convenient software bundle can be downloaded from Anaconda (https://www.anaconda.com/) (Not necessary prior to course, this is part of the course)
For those who do or cannot install software on their computers we would use Google collab, a tool for which you will need a Google account.

People who do not have access to an own laptop, may borrow one from GLOMAR. This needs to be indicated in the registration form.

Target group

Beginners with no prior experience in using Python

Location and Time

MARUM, University of Bremen, Leobener Str. 8, 28359 Bremen, Germany
MARUM I (main) building, room 2070

09.00 – 13.00 hrs.

Registration

To register for this course, please visit the course web page:
https://www.marum.de/en/education-career/2022-09-20.html

Please note that your registration will be binding.

The registration deadline for this course is **12 September 2022**.

Any enquiries regarding the course should be addressed to early-career@marum.de.