

# Python Primer – Writing Your First Script

*Course Length:* 1 day

*ArcGIS Version:* 10.x

*App:* ArcMap

## Overview

Tailored to the non-programmer, this course introduces the attendees to scripting basics: variables, loops, conditional statements, etc. via a series of short lecture presentations and hands-on “try-its” to accomplish a worthwhile task. The task is to create a script that will write a log file of broken links in a map document and then run that script as a tool from ArcToolbox. If you have never programmed before, this course is the perfect course to prepare you to be successful in the more detailed Python for ArcGIS - Writing Scripts to Manipulate GIS Data.

## Audience

Attendees should be familiar with the basic use of ArcGIS, including the topics covered in the TeachMeGIS Fundamentals and Intermediate classes, and should also be familiar with geoprocessing.

## Topics Covered

- Introduction to Python – Discover what Python is and places it is commonly used, as well as basic syntax. (Python; String Syntax)
- Comments, Numbers, and Variables – Learn how and why to use comments in a script, the proper syntax for numbers, and how to declare variables. (Comments and Numbers; Variables)
- Rules and Functions – Discuss rules for writing scripts, such as case sensitivity, as well as string functions and how to include paths in a script. (Python Rules; String Functions)
- Objects, Properties, and Methods – Find out what site packages and objects are, as well as the difference between properties and methods. (Object Oriented Scripting; arcpy)
- Looping – See how to use loops to repeat lines of code for a set of items. (Working with Loops)
- Using the Help – Access the help documentation to get code samples and use the arcpy.mapping module. (Help; arcpy.mapping)
- Write to a File – Have scripts create a text file. (Writing to a Text File; File Workflow)
- Input Arguments – Make a script that prompts for arguments at run time. (Making Scripts Dynamic; sys Module; Capturing Arguments)
- Create a Script Tool – Create a custom toolbox and custom script tool (Toolboxes in ArcToolbox; Custom Script Tools)
- Document the Tool – Write the help for the custom script tool that you created. (What is Help?; Creating Help Documentation)

## **Format**

This class is taught in two formats: In-person instruction with hands-on practice and live, instructor led online.