

# Python for Beginners

This 'class' is intended to introduce the Python programming language to users with no previous programming experience with an emphasis on scientific applications. Much like learning a foreign language, the process will be facilitated by interactive meetings where small scripts will be built as a group.

Bringing a computer is strongly recommended for a more hands-on experience. Computers running Linux or Mac OS will typically have Python already installed. To check the version of Python that is installed, run `python -V` at a terminal prompt. Users with computers running Windows will need to download and install Python.

Python can be obtained at [python.org/downloads/](https://python.org/downloads/). Make sure to get version 2.7.x and double check that you're downloading the correct installer for your OS.

Topics will be grouped and discussed in sections listed below. Note that each section may span multiple meetings.

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Section 1: Getting Started	<ul style="list-style-type: none"> <li>• Why Python?</li> <li>• Obtaining Python</li> <li>• Basic types – Integer, float, string, list, tuple</li> <li>• Basic operators</li> <li>• Promotion</li> </ul>
Section 2: Variables, Input/Output, Functions	<ul style="list-style-type: none"> <li>• Assignment</li> <li>• Input/Output to terminal</li> <li>• Built-in functions</li> <li>• User-defined functions</li> <li>• Files</li> </ul>
Section 3: Flow control	<ul style="list-style-type: none"> <li>• Comparisons</li> <li>• Booleans and how to use them</li> <li>• If statements</li> <li>• For and While loops</li> </ul>
Section 4: Modules and Scientific Libraries	<ul style="list-style-type: none"> <li>• Why use modules?</li> <li>• Common modules</li> <li>• Scientific modules</li> <li>• Importing</li> <li>• Calling module components</li> </ul>
Section 5: Exceptions	<ul style="list-style-type: none"> <li>• Why use exceptions?</li> <li>• Using try/except/else</li> <li>• Using raise</li> <li>• Examples</li> </ul>
Section 6: Advanced topics	