

# XSD Python Training Home

To sign up to be on the mailing list see [Python Training E-Mail List](#). Note that a separate E-mail list exists for Beginning Python Training. Please follow the link to the Beginning Python below to find a link to that E-mail List.

Files for lectures can be found in: <https://anl.box.com/v/2016Python> (see links in table below)

**Next Lecture:** *Intro to Matplotlib*, June 4, 10:30 am & 2 pm

**Beginning Python:** See [new page](#).

Past and future topical Python lectures				
Date / Time / Location	Topic	Lecture Description	Presenter	Links
<b>Part 1: Getting Started / Basics</b>				
2016-06-06 10:30 AM - Noon / A1100	Basic Python	The Basics of the Python language (I). Topics: course organization, Python variables & data types; defining functions	BHT	<ul style="list-style-type: none"> <li>slides</li> <li>homework (answers)</li> <li>videos: <a href="#">part 1</a>, <a href="#">part 2</a></li> </ul>
2016-06-20 10:30 AM - Noon / A1100	Basic Python	The Basics of the Python language (II) Topics: conditional statements and looping	BHT	<ul style="list-style-type: none"> <li>slides</li> <li>homework (answers)</li> <li>videos: <a href="#">part 1</a>, <a href="#">part 2</a></li> </ul>
2016-07-11 10:30 AM - Noon / A1100	Basic Python	The Basics of the Python language (III) Topics: file I/O, system-supplied and DIY modules	BHT	<ul style="list-style-type: none"> <li>slides</li> <li>homework (answers)</li> <li>videos: <a href="#">part 1</a>, <a href="#">part 2</a></li> </ul>
2016-07-25 10:30 AM - Noon / A1100	Coding Environment	PyCharm IDE Version (git/github) control intro	DPJ & PRJ	<ul style="list-style-type: none"> <li>slides</li> <li>homework</li> <li>videos: <a href="#">prev homework</a>, <a href="#">PyCharm</a>, <a href="#">GitHub</a></li> </ul>
2016-08-15 10:30 AM - Noon / A1100	Recommended Practices	Version Control with Git and GitHub, PyCharm interface to version control	PRJ & DPJ	<ul style="list-style-type: none"> <li>slides</li> <li>videos: <a href="#">Git/GitHub</a>, <a href="#">Git from PyCharm</a>, <a href="#">homework assignment (answers)</a></li> </ul>
2016-08-29 10:30 AM - Noon / A1100	Coding Environment	Using Jupyter Notebooks	JH	<ul style="list-style-type: none"> <li>slides</li> <li>videos: <a href="#">prev homework</a>, <a href="#">Jupyter Notebooks</a></li> </ul>
2016-10-17 10:30 AM - Noon / A1100	Recommended Practices	documenting code (Sphinx) structuring a package (intro), logging	PRJ	<ul style="list-style-type: none"> <li>slides</li> <li>video</li> <li>homework</li> </ul>
<b>Part 2: Things APS Scientists Need to Get Started (Bootcamp for APS Scientists)</b>				
2016-11-14 10:30 AM - Noon / A1100	EPICS	Using Python to control beamlines: practical examples (EPICS interfacing)	PRJ	<ul style="list-style-type: none"> <li>slides</li> <li>video</li> <li>homework</li> </ul>
2016-11-28 10:30 AM - Noon / A1100	Working with files	CSV, introduction to pandas, etc	JH	<ul style="list-style-type: none"> <li>Slides as <a href="#">html</a> or <a href="#">pdf</a></li> <li>Slides as <a href="#">jupyter notebook</a></li> <li>video</li> </ul>
2016-12-12 10:30 AM - Noon / A1100	Working with files	Working with HDF5	JH	<ul style="list-style-type: none"> <li>slides</li> <li>Jupyter notebook files, or as <a href="#">HTML</a></li> <li>video</li> </ul>
<b>Part 3: Scientific Programming Tools</b>				

2017-02-06 10:30 AM - Noon / A1100	numerical calculations	Python for numerical computations I: Basics of NumPy; Optimizing NumPy for speed	RBVD	<ul style="list-style-type: none"> <li>slides: <a href="#">PDF</a> or <a href="#">PPTX</a></li> <li><a href="#">video of 1st half</a> (recording failed)</li> </ul>
2017-03-06 10:30 AM - Noon / A1100	GUI development	GUI development with Qt (1)	NS	<ul style="list-style-type: none"> <li><a href="#">slides</a></li> <li><a href="#">examples</a></li> <li><a href="#">video</a></li> </ul>
2017-03-27 10:30 AM - Noon / A1100	numerical calculations	Python for numerical computations II: Using SciPy	RBVD	<ul style="list-style-type: none"> <li><a href="#">slides</a></li> </ul> <p>(talk was not recorded)</p>
2017-6-19	code optimization	Using multiple cores in Python: Intro to the multiprocessing module (1)	BBF	<ul style="list-style-type: none"> <li><a href="#">slides</a></li> <li><a href="#">examples</a></li> <li><a href="#">video</a></li> </ul>
2017-04-? 10:30 AM - Noon / A1100	GUI development	GUI development with Qt (2)	NS	
2018-06-04 (A1100) 10:30 am-noon & 2 pm-3:30 pm	scientific graphics	Intro to Matplotlib	Tom Caswell (BNL)	<ul style="list-style-type: none"> <li>Lecture 1: <a href="#">Video</a>, <a href="#">Source files</a>, notebooks as PDFs: <a href="#">[1]</a>, <a href="#">[2]</a>, <a href="#">[3]</a></li> <li>Lecture 2: <a href="#">Video</a>, <a href="#">Source files</a></li> </ul>
<b>Part 4: Large-Scale Computing in Python</b>				
<b>Meetings will be 10:30am-noon in 401/A1100 unless otherwise noted.</b>				
2017-11-15	code optimization	<a href="#">Optimizing Python Applications Using Intel® Performance Tools</a>	Oleksandr Pavlyk (Intel)	<a href="#">Slides</a>
2018-Mar-26 <b>Note: 401/B2100</b>	HPC with Python (1)	Python Parallelism & MPI Overview	William Scullin (ALCF)	<a href="#">Slides</a> , <a href="#">code examples</a> (or as <a href="#">tarball</a> )
2018-April-9	<b>No Lecture</b> (postponed)			
2018-April-30 (A1100) <b>note new date</b>	HPC with Python (2)	MPI Concepts	William Scullin	
TBD	HPC with Python (3)	Advanced MPI & Parallel Performance and Debugging	William Scullin	
<b>Possible Future (Advanced) Topics</b>				
?	code optimization	Multicore processing in Python with the multiprocessing module	BBF	
?	Python environments	Installing packages (with pip and conda); managing environments with conda	PRJ	
?	code distribution	Packaging Python code for redistribution	PRJ	
		Documenting python code with Sphinx, publishing docs (readthedocs)	PRJ?	
		Creating web applications	TBD	
		Data base access in Python (sql, XML, JSON, excel, web services, logging)	TBD	
		Python advanced basics (from Enthought)? or later as needed	TBD	
		3rd visualization in Python		

## Recent space activity



Toby, Brian H.

[2018 Beginning Python Tutorial](#) updated Dec 03, 2018 • [view change](#)

[XSD Python Training Home](#) updated Jun 28, 2018 • [view change](#)

Hammonds, John P.

## Space contributors

- [Toby, Brian H.](#) (815 days ago)
- [Hammonds, John P.](#) (1008 days ago)
- [Schwarz, Nicholas](#) (1452 days ago)

[2018 Beginning Python Tutorial](#) updated May 24, 2018  
[view change](#)

[XSD Python Training Home](#) updated Apr 18, 2018 • [view change](#)