Python for Astronomy Seminar (p4a)

Learn the Python & Jupyter. Use it for your STEM career.

Python has become the language of astronomy and astrophysics research – as well as other sciences and engineering. Join our new Boyce-Astro seminar to get a start in python. As part of this curriculum, we will explore the lifetimes of stars using the Hertzsprung Russell diagram (HRD). We will then learn how to query large amounts of data from the Gaia, Kepler satellite databases using Python within a Jupyter Notebook. We will then analyze and filter this data to plot HRDs for thousands of stars in our immediate solar neighborhood and distant globular clusters.

The seminar will introduce you to Python, Markdown Syntax, Jupyter Notebook and much more during the 5 sessions planned.

Our instructor, Chandru Narayan, is a long-time amateur astronomer and has taught Computer Science and Astronomy at The Bush School, Seattle, Washington.

Date Pacific Time	Topic	Description
Pre-work Self-study	Advanced pre-work materials provided by instructor	Prep work for Jupyter Notebooks and Python
03-09-2026 7-8 PM	Intro to Python and Astronomy	Intro to Markdown Jupyter Notebooks LaTeX Python and Plotting using Matplotlib. Astronomy Basics, Celestial Coordinates
03-16-2026 7-8 PM	Astronomy in Motion - a historical perspective & advanced computing	Tycho Brahe, Johannes Kepler, Isaac Newton, Ellipses - a natural state of motion in the Universe
03-23-2026 7-8 PM	Change is Everything	Hipparchus Stellar Magnitudes, Distances, Logarithms, Derivations and Definitions
04-06-2026 7-8 PM	Study Half-a-million stars	Search, Query and Plot half-a-million stars in our own Milky Way imaged by the ESA Gaia satellite
04-13-2026 7-8 PM	Hertzsprung Russell Diagrams for Star Clusters	Stellar Evolution, Classification and plotting Hertzsprung Russell Diagrams for nearby Open Star Clusters

Completing IntroSTARS™ or other Boyce-Astro Seminar is the prerequisite for the seminar.
The course fee is $29 and will be due 03-14-2026

The class size limit is 20. High school and college students have preference.

FINAL DATE TO APPLY IS MARCH 2, 2026

Click Here to Apply