



## Python for Astronomy

### Learn the Python Jupyter Data Science. 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 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 and Kepler satellite databases using Python within a Jupyter Notebook. We will then analyze and filter this data to plot HRDs for hundred-thousands of stars in our immediate solar neighborhood and distant globular clusters.

BOYCE-ASTRO ONLINE SEMINARS				
FALL SEMESTER 2025				
Python, Data Science, Gaia Queries, Jupyter, Markdown, LaTeX for Astronomy				
MODULE	TOPIC - subject to change	WHEN	DATE	WHERE
0	Pre-work materials provided	Anytime	10/10/25	Self-study
1	Intro to Python Markdown, LaTeX, Plotting	Fri 7-8 PT	10/17/25	Google Meet
2	Tycho Brahe, Kepler, Newton & Elliptical orbits	Fri 7-8 PT	10/24/25	Google Meet
3	Star Magnitudes, Logarithms - Change is Everything	Fri 7-8 PT	10/31/25	Google Meet
4	Gaia Query & Plotting of half-a-million stars	Fri 7-8 PT	11/07/25	Google Meet
5	Hertzsprung Russell Diagrams of Star Clusters	Fri 7-8 PT	11/14/25	Google Meet
6	Optional show-and-tell student work	Fri 7-8 PT	11/21/25	Google Meet

The seminar will introduce you to Python, Markdown Syntax, Jupyter Notebook and much more.

Our instructor, Chandru Narayan, is a long-time amateur astronomer and has taught Computer Science and Astronomy at The Bush School, Seattle, Washington. He also teaches the BAROspection - Intro to Spectroscopy online course. See [Boyce-Astro calendar](#) for details.

**Completing IntroSTARSTM or another Boyce-Astro Seminar is the prerequisite for the seminar.** If you have **not** taken our FREE IntroSTARSTM or another seminar, [please sign up here](#) to start that course. The IntroSTARS Quiz to qualify for this Python for Astronomy seminar will be sent to new students a week before the start of Seminar. Those who have already passed the Quiz need not take it again.

**The course fee is \$29 and will be due October 22, 2025**

The class size limit is twenty. High school and college students are given preference.

You have received this because you previously expressed interest in the course. If you are interested in taking the class, please complete the application.

**[Click Here to Apply](#)**