

## **PHS 556: ASTROPHYSICS** (3 semester hours)

ASU Main campus: Physical Sciences Center, room H-356/358, M-Th from 4:30-7:30 pm  
Instructor: Prof. Carl Covatto, ASU Dept. of Physics

Teachers will learn concepts in astronomy and will develop lessons that they can use in their classrooms. The course will incorporate together lectures, discussions and group activities, including use of Internet resources and computer laboratory experiments in support of class material. Major concepts and applications to be studied are:

1. Light, spectra, telescopes, and the measurement of stellar properties
2. Astronomical datasets
3. The interstellar medium (dust, HII regions)
4. Cosmological models

Last year more astronomical data was collected than had previously existed and this trend is expected to continue. As a result, much astronomical research today uses a technique known as “data mining”. Astronomers use this technique to obtain data for research purposes by using the World Wide Web rather than applying for telescope time. Many of the projects in this course will be done using the same publicly available data sets available to professional astronomers. The teachers will be taught how to obtain data from various databases, but will be expected to obtain their own data. In most cases the projects will be original in the sense that no one will have used the same data set in the same manner.

**The course is open to high school physics, physical science, earth/space science, and mathematics teachers. A working knowledge of calculus and basic physics is recommended. The course prerequisite is a college-level course in astronomy.**

At this time (April 16) it is unknown whether a textbook will be required.