

## **Astronomy (AY) 102**

**Title:** Introduction to Astronomy Laboratory

**Prerequisite:** AY 101 must be taken before or concurrently with AY 102

**General studies:** Natural Science

**Credit Hours:** 1

**Student Profile:** If you aren't seeking to continue to higher level astronomy courses, but want a good survey of the subject, the combination of AY101 and AY 102 is a good option. AY101 and AY 102 are taken primarily by students to satisfy part of their N requirement in the University Core Curriculum. These courses are *not* intended for students planning to major in physics. (Physics majors on the Astrophysics Track should instead take AY 203, AY 204, and AY 206)

**Course Profile:** Astronomy 102 is the laboratory associated with Astronomy 101 - Introductory Astronomy. Laboratory exercises include observations of the sun, moon, and daytime astronomical activity. Indoor exercises include analyzing stellar spectra, exploring the celestial sphere, and astronomical photographic analysis. More specifically, the laboratory activities in AY 102 are designed to explore the following subjects:

- The appearance of the sky and the yearly path of the Sun
- Properties of lenses and telescopes
- Measuring distances to stars using parallax
- Lunar surface features
- Light spectra; analyzing the Sun's spectrum
- The Sun and solar activity
- The orbital motions of planets in our Solar System
- Stellar brightness and stellar spectral types
- The distribution of globular star clusters in our galaxy
- Observations of our Milky Way galaxy
- Galaxies and clusters of galaxies
- Galaxy motions and the expansion of the Universe

**Format:** Astronomy 102 meets once a week for 3 hours. An instructor spends 10-15 minutes at the beginning of each lab providing background. Students then work in small groups on laboratory exercises, turning in a report at the end of each lab. The lab exercises and are contained in a lab manual available from the SupeStore. There are several quizzes throughout the semester on the lab content.

**Alternative Courses:** If you would like a more in-depth survey of planets, stars, galaxies, and the Universe, then AY 204 (Solar System Astronomy) and/or AY 206 (Astronomy beyond the Solar System) may be better choices for you. AY 204 and AY 206 take 2 semesters to cover the same topics as AY 101 does in 1 semester. AY 204 and AY 206 also use more math (algebra and trigonometry) to enrich the subject further. AY 204 can also be combined with AY 203 (Observational Astronomy) to satisfy the N requirement of the University Core Curriculum.