

# ASTRONOMY (ASTR, PHYS)

## **ASTR 150 Meteorology**

**F&S E0**

**3 credits**

An introduction to the atmosphere, including fronts and air masses, clouds and precipitation, our seasons, and global climate. Basic atmospheric processes and phenomena are studied to provide the student an understanding of our ever changing and sometimes dangerous day-to-day weather. Emphasis is placed on central North America. Concurrent registration ASTR 150L is required.

## **ASTR 150L Meteorology Lab**

**F&S E0**

**1 credit**

Students learn to plot and interpret weather maps and atmospheric temperature, moisture, and wind profiles. Real-time surface and upper air data are used to bring relevance to observations and resultant weather. Students develop basic forecasting skills, as well as basic observational skills. Concurrent registration in ASTR 150 is required.

## **PHYS 110 Introductory Astronomy**

**Fall**

**3 credits**

Concurrent registration in PHYS 110L is required. Brief history of ancient astronomy; the Copernican revolution and the beginning of modern astronomy (Copernicus, Kepler, Galileo, Newton); the appearance of the night sky, revolution and rotation of the Earth, celestial coordinate systems, the calendar and seasons; the nature of light and telescopes; structure and origin of the solar system; the Earth, atmospheric phenomena (rainbows, haloes, aurora, etc.) the Moon; the planets and their satellites; comets and solar system debris (asteroids and meteorites); distances and motions of the stars; formation of stellar spectra; the Sun; evolution of ordinary stars; evolution of massive stars and supernovae; neutron stars, pulsars and black holes; the Milky Way and other galaxies; the expanding universe, quasars and cosmology.

## **PHYS 110L Introductory Astronomy Lab**

**Fall**

**1 credit**

Laboratory exercises cover various aspects of astronomy, including measurement of planetary distances, appearance of the constellations and night sky, phases of the moon, differences between terrestrial and Jovian planets, measurements of parallax, and construction of Hertzsprung-Russell diagrams. Concurrent registration in PHYS 110 is required.