AS 101
Course Objectives

Content	Objectives
Early Astronomy	Students will be able to understand who mankind's understanding of the universe has developed.
Kepler's Laws of Planetary Motion	Students will be able to understand how these laws were pivotal in the development of the heliocentric theory of the solar system and be able to solve simple problems dealing with planetary motion.
Newton's Laws of Gravitation and Circular Motion.	Students will be able to understand and apply Newton's law of Gravitation to a variety of situations, and use Newton's law of circular motion to derive the mass of various celestial objects.
Light and Radiation	Students will understand the importance of spectroscopy in the study of the universe and be able to solve simple problems dealing with Doppler shifts.
Telescopes	Students will understand what a telescope is, how it works and how to use one.
The Sun	Students will understand the physical appearance and properties, of the Sun, and its composition, method of energy production, origin, life cycle and eventual fate.
The Stars	Students will understand and be able to classify stars according to their spectra. Students will understand the Hertzsprung-Russell diagram and its importance in understanding stellar evolution. Students will understand the origin of stars, the interstellar medium, and the lifecycles of various classes of stars. Students will understand the origin of the elements and be able to calculate the lifetimes of stars.
The Milky Way Galaxy	Students will understand the structure and composition of the Milky Way.
Other Galaxies	Students will be able to classify galaxies using Hubble's tuning form classification scheme. Students will understand why some galaxies are active while others are inactive and the energy source that powers active galaxies. Students will be able to calculate the motions of galaxies.
Cosmology	Students will understand the "Big Bang" model of the universe and be able to calculate its age.
The Solar System	Students will be able to classify the various objects found in the solar system. Students will understand the physical properties and appearance of solar system objects and be able to perform simple calculations dealing with those objects.