

Syllabus-PHYS 1007-Introduction to Astronomy

Prof. M. Alper Sahiner

Physics Dept.

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Office hours: *Monday: 3:30-4:30pm, Tuesday: 10:30am-12:00n*

Textbook: The Essential Cosmic Perspective 3rd Edition by *J. Bennett, M. Donahue, N. Schneider, M. Voit* .

Media:

1. We will use the "Sky Gazer" software (included with the textbook) and there will be assignments from the Astronomy Media Book (included with the text book)
2. We are going to watch episodes from Carl Sagan's documentary series "Cosmos"

Exams: There will be two hourly tests and a final exam.

HW: There will be weekly HW assignments from the book or the Astronomy Media Book. HW assignments will be graded and is a 20% of the final grade.

Attendance/participation: Attendance will be taken each lecture. Student participation in lectures (questions/ discussions) is strongly encouraged.

Final grade = Exam1-25% + Exam2-25% + Final-30% + HW-20%

The course will cover the following subjects:

- Our place in the universe
 - Scale of the universe, modern view of the universe.
 - Patterns in the sky, astronomical definitions, objects
- History of astronomy and the science of astronomy
 - Ancient Greek Astronomy
 - Copernican Revolution
- Gravitational motion of planets
 - Newton's Laws
 - Kepler's Laws
- Light and Matter
 - Properties of light (telescopes, spectroscopy)
 - Interactions with matter
 - Spectral analysis of stars and planets (Doppler Shift)

- Universe of matter and energy
- Earth and the solar system
 - Formation of the Solar System
 - The terrestrial planets
 - Jovian planets
 - Our Earth (a detailed analysis)
 - Our star, Sun
- Stars and galaxies
 - Surveying the stars (properties, classification)
 - Star birth, evolution, and death (White Dwarfs, Neutron Stars, Black Holes)
 - Cosmology (Big Bang and the fate of the universe).

Disability Services Statement

Students at Seton Hall University who have a physical, medical, learning or psychiatric disability, either temporary or permanent, may be eligible for reasonable accommodations at the University as per the Americans with Disabilities Act (ADA) and/or Section 504 of the Rehabilitation Act. In order to receive such accommodations, students must identify themselves at the Office of Disability Support Services (DSS), provide appropriate documentation and collaborate with the development of an accommodation plan. The DSS phone number is 973-313-6003. For further information, please go to our website at

<http://studentaffairs.shu.edu/health/DisabilitySupportServices.html>