

PHSC 2B: Introductory Astronomy 2007

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Class Hours: MWTh 12 - 1 (Block E) plus W 6:30-9:30 PM (Block X2); **Location:** Abelson 131
The evening block will be used flexibly – naked eye and telescopic observing when the skies are clear, extra help with the science and math when they are cloudy.

Textbook: *NONE!* Instead, we shall work from written and web-based materials I have prepared specially for this class. Instead of laying out ~\$120 for a standard textbook, we will ask \$25 for a 3 ring binder and xeroxing costs.

Syllabus: This is a survey course aimed specifically at non-science (and even science-phobic) students. The universe is too vast to cover in a single semester, so we will choose from the following list of chapter headings. More information can be found on the course website http://pc.astro.brandeis.edu/PHSC_2B/

Part I, Introduction to astronomy: Thinking about the universe; Sky watching – stars and constellations; sky watching – the solar system; sky watching – the solar system; Explaining the solar system - the observations (Tycho and Galileo); discovering the rules (Kepler and Newton); Light and the electromagnetic spectrum; Telescopes and Images.

Part II, Exploring the solar system: The Structure and Contents of the Solar System; Exploring the Earth; The Moon and the Earth-Moon system; The other rocky planets; The giant planets, and their moons and rings; The smaller objects in the solar system; The Sun.

Part III, Exploring the Milky Way: Measuring Distances; A Tour of the Milky Way; The zoo of stars; Stars birth and mid-life; Star death

Part IV, Exploring the Universe: Touring the universe: our neighborhood; Touring the universe: deep space; History and future of the cosmos; Dark matter and Dark Energy; First light – the Big Bang; Epilogue – the fate of the universe

Course requirements: • Weekly reading assignments, plus

- One observatory session and an observatory report. This is required. If you get up a second time (after everyone else has had a chance) you will earn extra credit.
- Journal of naked eye observing projects. Some of these are required, some are for extra credit.
- Interim exam at one third through the course - one hour, in class.
- Interim exam at two thirds through the course - one hour, in class.
- Final exam – two hours (but with three hours to do it), scheduled by registrar.

Grading: Your grade will be determined from the five required components, and augmented by extra credit work.

- Participation.....10%
- Observatory report.....15%
- Observing Journal..... 15%
- Interim exams 15% each
- Final exam 30%