Astronomy 103 - Introduction to Astronomy of Planets and Moons (Summer I – June 2011)

Introductory astronomy is a course which will challenge the student to take a critical look at Nature, both qualitatively and quantitatively, as well as giving access to the use of telescopes, including the 15-inch Grubb refractor from the late 1800s and a 25-inch reflector, to see with one's own eyes some of what the Universe has to offer. It is hoped, that upon completion, the student will have a deeper appreciation for the Universe and his/her place in it, as well as some basic science skills.

The topics to be covered will include: a history of ideas concerning man's understanding of the universe, basic astrometry and spherical astronomy, the magnitude system, telescopes, basic orbital mechanics, the sun, the earth and its geology, the moon, the formation of the solar system, planetary surfaces, planetary atmospheres, comets and asteroids, basic stellar and galactic astronomy. If time allows, we may also discuss the Universe at large, its formation and fate, as well as some of the other objects in it.

A class session shall consist of two lectures, each approximately 50 minutes in length, with a short ($\sim$ 10 minutes) interval in-between. In addition, there is a laboratory session lasting two hours in length twice per week. This is where most observations will be done, and is thus an important part of the course. A weekly exercise set will be suggested, but neither collected nor marked. A mid-term examination may be given at the discretion of the class. Occasional quizzes will be given. There will be a cumulative final examination. The result of the final examination and participation in the laboratory will determine the course mark. Note, that three (3) unexcused absences from the laboratory will result in a failure of the *entire* course independent of performance on the examination.[1] The proposed marking scheme for the course is A: $\gtrsim$ 80%, B: 80% $\gtrsim$ 60%, C: 60% $\gtrsim$ 30%, D: 30% $\gtrsim$ 10% and F.

Text: *The Cosmic Perspective* by Bennett, et al.
Class sessions: M-Th 13.00 to 15.50 in Lewis Hall room 101
Office Hours: Any mutually agreeable time
Laboratory sessions: Either M and W or T and Th 21.00 to 22.50 in room 1 of Lewis Hall
Course examination: 28th June, 16.00 in room 101 of Lewis Hall

Brian Mazur
bmazur@olemiss.edu – 662-915-7928
Kennon Observatory, room 1

[1] Two (2) such absences will result in the final mark being lowered one full mark.

Week[2] **1**: Introduction – Astronomy Basics

Readings: Chapters 1, 2, 3, S1, 4, 5 and 6

Week 2: Solar System Basics and Formation – Asteroids, Comets and Meteors – Sun

Readings: Chapters 7, 8, 12, 13 and 14

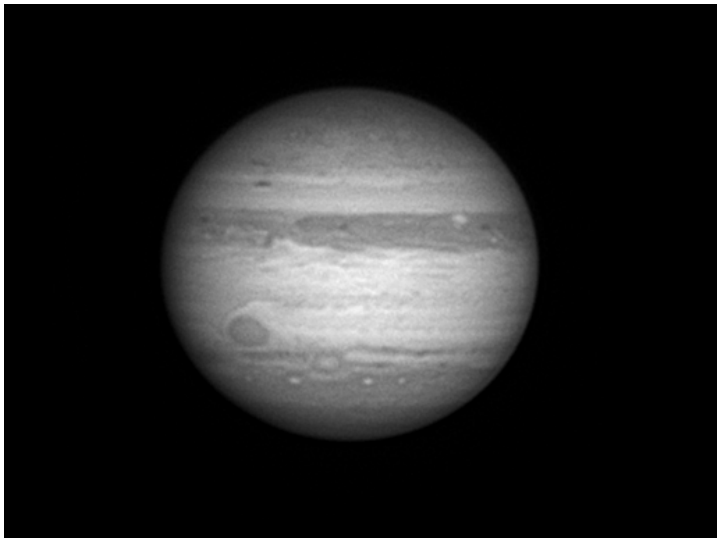
Week 3: Planetary Geology

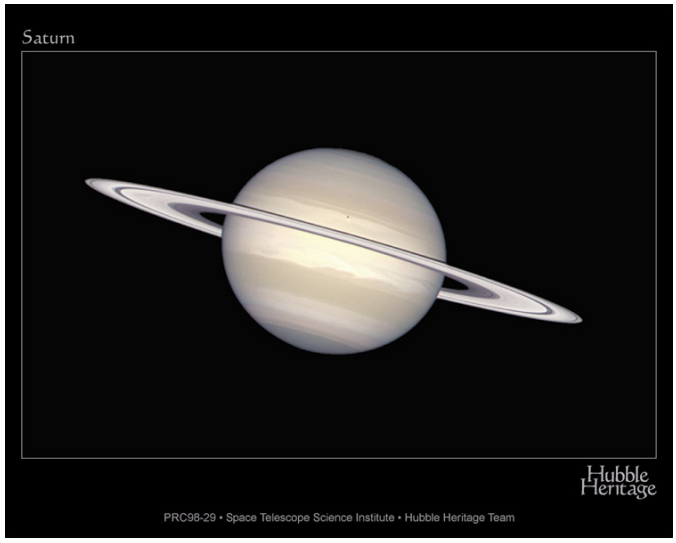
Readings: Chapter 9

Week 4: Planetary Atmospheres – Additional Topics

Readings: Chapters 10 and 11

Course Examination: 28 June, at 16.00 in room 101 Lewis Hall





[2] *Week* means roughly four (4) days worth of lecture.