

## Physics 195 Class Schedule and Reading Assignments 2014

Below are the class schedule and reading assignments for Dr. Bruce Betts' 2014 Physics 195: Introduction to Planetary Science and Astronomy class at California State University Dominguez Hills (CSUDH). Other resources for the class including links to the video archive, the syllabus, and written assignments are available at: <http://planetary.org/bettsclass>

Reading assignments are from *The Cambridge Guide to the Solar System (Second Edition)*, Kenneth R. Lang, Cambridge University Press, 2011. They are listed in the lecture in which they are assigned, i.e., they are reading assignments for the following week's lecture.

The class schedule is below. We will attempt to periodically update the schedule to reflect changes e.g., if time runs out in one class and topics were actually covered the following week.

### Weekly Schedule with Reading Assignments:

- Week 1 (Feb. 5)

Overview Day: Tour of the Solar System, and Easy Things to Look for in the Night Sky with and without telescopes

*Reading:*    Sec. 1.1     Moving Points of Light  
                  Sec. 1.2     Telescopes reveal the hitherto unseen

- Week 2 (Feb. 12)

How do we explore planets and space?:Spacecraft, using multiple wavelengths, remote sensing and *In Situ* Studies, telescopes.

*Guest: Mat Kaplan, The Planetary Society –to record a segment for Planetary Radio.*

*Reading:*    Sec. 2.2     Impact Cratering  
                  Ch. 5        The Moon  
                  Ch. 6        Mercury

- Week 3 (Feb. 19)
 

The Moon, Mercury, and Planetary Surfaces Processes

*Reading:*   Sec. 3.1    Planetary atmospheres fundamentals  
                   Sec. 3.2    Atmospheres of the terrestrial planets  
                   Ch. 7        Venus
- Week 4 (Feb. 26)
 

Venus, Earth, Mars Intercomparison, and Focus on Venus

*Reading:*   Ch. 8        Mars
- Week 5 (March 5)
 

Mars

*Reading:*   Ch. 12    Asteroids and Meteorites  
                   Ch. 13    Colliding Worlds
- Week 6 (March 12)
 

Asteroids, including Near Earth Objects, and impact hazards to the Earth.

*Reading:*   Ch. 9        Jupiter  
                   Sec. 3.6    Magnetized planets and magnetospheres
- Week 7 (March 19)
 

Jupiter and its satellites, Magnetospheres

*Reading:*   Ch. 10    Saturn

### **Midterm**

- Week 8 (March 26)
 

Saturnian System, Ring Systems

*Reading:*   Ch. 11    Uranus and Neptune

### **CSUDH Spring Break (No Broadcast – April 2)**

- Week 9 (April 9)
 

Uranian and Neptunian Systems

*Reading:*   Sec. 3.5    The planets are inside the expanding Sun  
                   Sec. 3.7    Aurora  
                   Ch. 14    Comets  
                   Ch. 15    Beyond Neptune

- Week 10 (April 16)  
Pluto system, Kuiper Belt Objects, Trans Neptunian Objects, Oort cloud, Comets and effects of the Sun (solar wind, light pressure)  
*Reading:* Ch. 16 Brave New Worlds
- Week 11 (April 23)  
Extra Solar Planets: exploring other solar systems, and origins of our own  
*Reading:* Sec. 1.3 What holds the solar system together  
Sec. 1.4 Physical properties of the Sun
- Week 12 (April 30)  
The Sun and Stars: Formation, evolution, types. Plus solar sails and Lagrange Points.  
*Reading:* None
- Week 13 (May 7)  
Galaxies, Expansion of the Universe, Big Bang, Life and SETI

## **Final Exam**