

**PHYS 271: Planet Quest Outline J-Term 2006**

Day	Dates	Topic	Readings	In Class	Homework
1	1/3	Scales. Celestial Coordinates; Constellations; Motions of Earth, Moon		Worksheet: Keeping Things in Proportion Planetarium Worksheet: Relatives Sizes Within the Solar system	
2	1/4	Gravity, Obits, Kepler's Laws; Newton's Laws; Optics, Light, and Telescopes  <b>Quiz 1</b>	Ch. 1, 2	Worksheet: Orbital Period and Orbital Distance; Our Home Planet Earth; Tutorial: Orbits and Kepler's Laws Worksheet: The Heliocentric Model Worksheet: The Size of the Solar System	Ch 1: Q & P 1-20; Ch 2: Q & P 17,21,23,29,32
3	1/5	More Telescopes, Electromagnetic Radiation; Doppler Shifts	Ch. 3, 4	Tutorial: Light and Spectroscopy; Tutorial: Doppler Shift Tutorial: Telescopes Review	Ch 3: Q & P 1-15; Ch 4: Q & P 1-15;
4	1/6	Mercury and the Moon; Venus: Earth's Evil Twin  <b>Quiz 1</b>	Ch. 7.1-7.7; S&T: Rivers of Venus; S&T: The Clouds of Venus; Handout: Global Climate Change on Venus	Lecture/Discussion CLEA Lab: Radar Measurement of the Rotation Rate of Mercury Video: Planets	Ch 7: Q & P 1-12;
5	1/9	Mars I: Geology and Terrain;	Ch. 7.8-7.15; S&T: Europe's Eye on Mars; S&T: Mars: The Inside story;	Visual Tour of Mars  Data Tour of Mars  Video: Welcome to Mars	Ch 7: Q & P 13-22, 29;
6	1/10	Mars II: Atmosphere; History; Life?; Mars Rovers	S&T: In Search of Martian Seas; S&T: Great Expectations Link: Walking Naked on the Red Planet	Lecture/Discussion Group Project Work Video: The Red Planet Collection	
7	1/11	The Outer Planets; <b>Quiz 2</b>	Ch. 8; S&T: Europa S&T: Titan	Lecture/Discussion  Galileo Mission Data Video: Planets	Ch 8: Q & P 5-18;
8	1/12	Planetary System Formation; Terrestrial Planets	Ch. 5.1-5; S&T: Forging the Planets S&T: Solar system's Tumultuous Birth	Worksheet: Origin of the Solar system Group Project Reports Video: Origins	Ch 5: Q & P 2,3,5-10;
9	1/13	<b>Quiz 3</b>	S&T: Planets in Production	Review/Catch up	

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10	1/16	Exoplanets: Introduction to Field; Detection Techniques; Exoplanet statistics and insights into formation/dynamical evolution	Ch. 5.6-5.8; Handout: ESA Search for Planets; Link: How Many are There? Link: Planet Quest – Finding Planets	Lecture/Discussion Worksheet: Detecting Extrasolar Planets	Ch 5: Q & P 5,11-14;	
11	1/17	Habitable Zones: Kasting's article	Link: Habitable Zone (Encyclopedia)  Link: Bridgewater ESO Worksheet and Kepler Mission Links;  Link: Habitable Zone (PBS)	Lecture/Discussion  Worksheet: Meet the Neighbors  Tutorial: Detecting Extrasolar Planets		
12	1/18	<b>Quiz 4</b>  Transiting planets and HD209548b transit photometry to get radius and mean density;	Handouts	Lecture/Discussion  Group Project Work		
13	1/19	Physics of close in exoplanets ("roasters"); Atmospheric Structure and Spectra	Handouts	Lecture/Discussion		
14	1/20	<b>Quiz 5</b>	NASA Roadmap	Lecture/Discussion		
15	1/23	Earth-Like Planet Search; Future missions: Terrestrial Planet Finder (TPF) Missions	NASA Roadmap	Lecture/Discussion  Group Project Work		
16	1/24	Astrobiology; Origins of Life on Earth;	Kasting et al. Science 02 article; Evolution of a Habitable Planet	Discussion Video: Alien Planet Group Project Work		
17	1/25	<b>Quiz 6</b>		Group Project Work Group Project Work Group Project Work		
18	1/26			Group Presentations		
19	1/27	<b>Final Exam</b>				