

Course Outline

(subject to change)

Class No.	Date	Topic	Lecture Tutorials	Due in class (unless otherwise specified)	Textbook Sections
1	Wed 9/5	Size and Scale in the Universe	Sun Size		1.1, 1.2, 1.4
2	Fri 9/7	Lab #1 – Astronomy vs. Astrology			3.4-3.5
N/A	Sun 9/9			Mastering Astronomy #1 (11:59pm)	1.1-1.4, 2.1
3	Mon 9/10	History of Planet Discovery		Lab #1	1.3, 2.1
4	Wed 9/12	Intro to the Night Sky – Daily Motions	Position and Motion	“Prelab” #1 – Parts III-VII	1.3, 2.1
5	Fri 9/14	Lab #2 – Intro to Observing		Prelab #2	2.1
N/A	Sun 9/16	Orientation to the Night Sky (Optional, but highly recommended) 8:30pm-10pm, NSC Roof Backup day in case of clouds = Mon 9/17		Mastering Astronomy #2 (11:59pm)	2.1-2.3, S1.2
6	Mon 9/17	Intro to the Night Sky – Yearly Motions	Seasonal Stars Ecliptic	Lab #2	S1.2
7	Wed 9/19	Seasons	Seasons	Observing Asst #1	2.2
8	Fri 9/21	Lab #3 – Motion of the Sun		Prelab #3	2.3
N/A	Sun 9/23			Mastering Astronomy #3 (11:59pm)	S1.2, 2.2-2.3, 3.2-3.3
9	Mon 9/24	Ancient Observations of the Sun, Moon, Earth and Planets	Observing Retrograde Motion	Lab #3	3.2-3.3

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10	Wed 9/26	Heliocentric and Geocentric Cosmologies	Planetary Positions (supp.)		3.2-3.3
11	Fri 9/28	Lab #4 – Solar System Models		Prelab #4	
N/A	Sun 9/30			Mastering Astronomy #4 (11:59pm)	3.2-3.3, 4.4
12	Mon 10/1	Kepler's Laws	Kepler's Second Law Kepler's Third Law	Lab #4	3.3
13	Wed 10/3	Newton's Laws	Newton's Law and Gravity	Observing Asst #2	4.4
N/A	Thu 10/4	Midterm #1 7-10pm			
14	Fri 10/5	Lab Makeup Day			
N/A	Mon 10/8	NO CLASS – FALL BREAK			
15	Wed 10/10	Planet Formation	Temperature and Formation of our Solar System		8.1-8.2, 7.2
16	Fri 10/12	Lab #5 – Galilean Moons		Prelab #5	
N/A	Sun 10/14			Mastering Astronomy #5 (11:59pm)	7.2, 8.1-8.2, 9.1-9.2
17	Mon 10/15	Planetary Internal Structure and Energy	Earth's Surface Features (supp.) Planet Surface Features (supp.)	Lab #5	9.1
18	Wed 10/17	Planetary Surfaces as a Geological Record	The Moon's Crater History, Craters: The Order of Events	Observing Asst #3	9.2
19	Fri 10/19	Lab #6-7: Tour of Solar System		Prelab #6	7.1, 9.3-9.5, 10.3-10.5, 11.1-11.3, 12.1-12.5

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N/A	Sun 10/21			Mastering Astronomy #6 (11:59pm)	9.1-9.2, 10.1-10.2, 10.6
20	Mon 10/22	Tides and Orbital Interactions			4.5
21	Wed 10/24	Planetary Atmospheres			10.1-10.2
22	Fri 10/26	Lab #6-7: Tour of Solar System		Prelab #7	7.1, 9.3-9.5, 10.3-10.5, 11.1-11.3, 12.1-12.5
N/A	Sun 10/28			Mastering Astronomy #7 (11:59pm)	10.1-10.2, 10.6
23	Mon 10/29	Earth's Atmosphere	Greenhouse Effect	Tour of Solar System Poster (5pm, submit on Moodle)	10.6
24	Wed 10/31	Tour of Solar System Presentations		Observing Asst #4	
25	Fri 11/2	Lab #8 – Scale Models of Extrasolar Systems		Prelab #8	
N/A	Sun 11/4			Mastering Astronomy #8 (11:59pm)	13.1-13.4
26	Mon 11/5	Radial Velocity	Motion of Extrasolar Planets	Lab #8	13.1-13.4
27	Wed 11/7	Transits	Detecting Exoplanets with the Transit Method		13.1-13.4
28	Fri 11/9	Lab #9 – Selection Biases		Prelab #9	
N/A	Sun 11/11			Mastering Astronomy #9 (11:59pm)	13.1-13.4, 24.1-24.2
29	Mon 11/12	Direct Imaging + Astrometry		Lab #9	Supplemental material
30	Wed 11/14	Microlensing	Detecting Exoplanets with Gravitational Microlensing	Observing Asst #5	Supplemental material

Class No.	Date	Topic	Lecture	Tutorials	Due in class (unless otherwise specified)	Textbook Sections
N/A	Thu 11/15	Midterm #2 - 7-10pm				
31	Fri 11/16	Lab Makeup Day				
N/A	Mon 11/19	NO CLASS – THANKSGIVING BREAK				
N/A	Wed 11/21	NO CLASS – THANKSGIVING BREAK				
N/A	Fri 11/23	NO CLASS – THANKSGIVING BREAK				
32	Mon 11/26	History of Life on Earth				24.1
33	Wed 11/28	Life in the Solar System				24.2
34	Fri 11/30	Lab #10 – Exoplanet Activity			Prelab #10	
N/A	Sun 12/2				Mastering Astronomy #10 (11:59pm)	24.1-24.4
35	Mon 12/3	Habitability and Life in Other Solar Systems			Lab #10	24.3
36	Wed 12/5	SETI and the Search for Life			Observing Asst #6	24.4
37	Fri 12/7	Lab #11 – The Drake Equation			Prelab #11	24.4
N/A	Sun 12/9				Mastering Astronomy #11 (11:59pm)	24.1-24.4
38	Mon 12/10	Biosignatures			Lab #11	Supplemental material
39	Wed 12/12	The Future				
N/A	TBD	Final Exam				