
SYLLABUS for course ASTA01, Fall 2012

Title: Introduction to Astronomy and Astrophysics I: The Sun and Planets

Lecturer: Prof. Pawel Artymowicz

location: lectures Tue and Thu 10–11am in SY 110,

All tutorials on Thursdays in BV 361: TUT0001 12–13, TUT002 13–14

TUT0003 14–15, TUT0004 15–16, TUT0005 9–10, TUT006 11–12,

TUT0007 16–17

Calendar of lectures (L1...L24) and tutorials (T1...T10).

Notice there is no tutorial on the 1st Thursday!

Tue	10–11		Thu 10–11	TUT
3 Sep	L1		5 Sep	L2, --
10 Sep	L3		12 Sep	L4, --
17 Sep	L5		19 Sep	L6, T1
24 Sep	L7		26 Sep	L8, T2
1 Oct.	L9		3 Oct	L10, T3
8 Oct.	L11		10 Oct	L12, T4
15 and 17 October are Reading week – no classes				
22 Oct	L13		24 Oct	L14, T5
(midterm – Oct. TBA)				
29 Oct	L15		31 Oct	L16, T6
5 Nov	L17		7 Nov	L18, T7
12 Nov	L19		14 Nov	L20, T8
19 Nov	L21		21 Nov	L22, T9
26 Nov	L23		28 Nov	L24 T10
(Final exam – Dec. TBA)				

L1. Organization of the course. Introduction to WebAssign.

L1. Chapter 1: The Scale of the Cosmos: Space and Time

1.1 From Solar System to Galaxy to universe

1.2 Cosmic calendar & time

L2. Chapter 2: User's Guide to the Sky: Patterns and Cycles

2.1 The stars

2.2 The sky and its motions

L3. Chapter 2: User's Guide to the Sky: Patterns and Cycles

2.3 The cycle of the Sun

2.4 The cycles of the Moon

L4. Chapter 2: User's Guide to the Sky: Patterns and Cycles

2.5 Eclipses

2.6 Stellar coordinates

L5. Chapter 2: User's Guide to the Sky: Patterns and Cycles

2.7 Timekeeping

2.8 Night sky tours

L6. Chapter 3: The Origin of Modern Astronomy

3.1 Ancient astronomy

3.2 Nicolaus Copernicus

L7. Chapter 3: The Origin of Modern Astronomy

3.3 Tycho Brahe and Johannes Kepler

L8. Chapter 3: The Origin of Modern Astronomy

3.4 Galileo Galilei

3.5 Isaac Newton

L9. Chapter 3: The Origin of Modern Astronomy

3.5 Isaac Newton, Gravity and Orbits

L10. Introduction to the Sun as a star

L11. Chapter 12: The Origin of the Solar Systems

12.1 The great chain of Origins

L12. Chapter 12: The Origin of the Solar Systems

12.2 A survey of the planets

12.3 Space debris: planetesimals

- L13. Chapter 12: The Origin of the Solar Systems
 - 12.4 The story of planet formation
- L14. Chapter 12: The Origin of the Solar Systems
 - 12.4 The story of planet formation
- L15. Chapter 12: The Origin of the Solar Systems
 - 12.5 Planets orbiting other stars

- L16. Chapter 13: Comparative Planetology of the Terrestrial Planets
 - 13.1 A guide to terrestrial planets
 - 13.2 Earth: the active planet
- L17. Chapter 13: Comparative Planetology of the Terrestrial Planets
 - 13.3 The Moon
 - 13.4 Mercury
- L18. Chapter 13: Comparative Planetology of the Terrestrial Planets
 - 13.5 Venus
 - 13.6 Mars
- L19. Chapter 14: Comparative Planetology of the Jovian Planets
 - 14.1 A guide to outer planets
 - 14.2 Jupiter
- L20. Chapter 14: Comparative Planetology of the Jovian Planets
 - 14.3 Saturn & its rings
- L21. Chapter 14: Comparative Planetology of the Jovian Planets
 - 14.4 Uranus
 - 14.5 Neptune
- L22. Chapter 14: Comparative Planetology of the Jovian Planets
 - 14.6 Pluto (planet no more)
 - Kuiper belt and transneptunian objects

- L23. Chapter 15: Life on Other Worlds
 - 15.1 The nature of life
 - 15.2 Life in the universe
- L24. Chapter 15: Life on Other Worlds
 - 15.3 Intelligent life in the universe