

Syllabus
Astronomy 101
Introduction to Astronomy (3 credit)
UNMV, Spring 2017

1. GENERAL INFORMATION

Instructor: Kambiz Shahroudi
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2. COURSE DESCRIPTION

This is a one semester survey course in Astronomy. It starts with a study of the night sky, a bit of history. It then introduces the foundations and tools of astronomy such as telescope and spectroscope. Then the solar system is discussed. Next the sun as a star is studied. From there, the course discusses the stellar and galactic astronomy, and the course is concluded by a discussion of cosmology and the origin of the universe.

PREREQUISITE: None; Only an interest in Astronomy.

3. TEXT

Chaisson & McMillan, "Astronomy, A Beginner's Guide to the Universe, 8th edition", Addison-Wesley, 2015

Masteringastronomy

Course Code: MASHAHROUDI44291

4. STUDENT LEARNING OUTCOMES (SLO's)

- Be able to identify and track objects in the night sky;
- Understand the physical laws applied to astronomy;
- Be aware of the techniques used for research in astronomy
- Know the fundamental characteristics of all the objects in the solar system such as planets, comets, and asteroids, and the sun;
- Understand the techniques for measuring distances in Astronomy, and the relation between distance scale and looking back in time;
- Be able to understand the life-cycles of stars and interpret the HR diagram, and based on that classify stars and stellar evolution;
- Classify galaxies and use the distribution of galaxies to cosmology;
- Be aware of the modern theories about the origin of the universe.

5. COURSE REQUIREMENTS

Attendance:

Regular attendance is an essential requirement for this course. A student with equal or more than 15% of the sessions of accumulated absences may be dropped from the course. An absence is defined as not showing up, coming late, or leaving early from the class.

Exams:

There are three exams, and one comprehensive final exam. Lowest test grade or the average homework quiz grade will be dropped.

6. Grading

HW & Quiz (HWQ)	25%	<u>Grading Scale</u>
Exam1	25%	97-100 A+
Exam2	25%	93-96.9 A
Exam3	25%	90-92.9 A-
Final Exam	25%	87-89.9 B+
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Total	100%	83-86.9 B
		80-82.9 B-
Lowest exam grade or average		77-79.9 C+
homework/quiz is dropped		73-76.9 C
		70-72.9 C-
		67-69.9 D+
		63-66.9 D
		60-62.9 D-
		0-59.9 F

7. Tentative Schedule:

Week	Chapter
1	Introduction, Prologue – Charting the Heavens
2	CH.1– The Copernican Revolution CH.2 – Light and Matter
3	CH.3 – Telescopes
4	EXAM1 (W Feb/8) CH.4– The Solar System CH.5– Earth and its Moon
5	CH.6 – Terrestrial Planets CH.7– The Jovian Planets
6	CH.8– Moons and Rings and Pluto
7	CH.9- The Sun CH.10-Measuring Stars
8	EXAM 2 (W March 8th) Spring Break
9	CH.11-Interstellar Medium
10	CH. 12-Stellar Evolution CH.13 – Neutron Stars and Black Holes
11	CH.14- The Milky Way Galaxy
12	EXAM 3 (April 12) CH.15– Normal and Active Galaxies
13	CH.16– Hubble’s law and Dark Matter
14	CH.17-Cosmology
15	CH.18-Life in the Universe
16	FINAL EXAM (W May 10)