Syllabus
Astronomy 101
Introduction to Astronomy (3 credit)
CRN 33643
UNMV, Spring 2018

1. GENERAL INFORMATION

Instructor: Kambiz Shahroudi
Phone: 505-925-8600 (Voice Mail)
Email: *shahroud@unm.edu*
Office: TR 17:45-18:15

Class meets: Arts and Science 133; TR 4:30-5:45 PM

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

https://openstax.org/details/books/astronomy (Required)

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

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 ion 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.

STUDENTS WITH DISABILITIES:

If you have a documented disability, the Equal Access Services office will provide me with a letter outlining your accommodations. I will then discuss the accommodations with you to determine the best learning environment. If you feel that you need accommodations, but have not documented your disability, please contact Jeanne Lujan, the coordinator for Equal Access Services at 925-8910 or jmlujan@unm.edu.

6. Grading

HW/Quiz	10%+15%
Exam1	25%
Exam2	25%
Exam3	25%
Final Exam	25%
Total	100%

Lowest exam grade or average homework/quiz is dropped

Grading Scale	
90-100	A
80-89.99	B
70-79.99	C
60-69.99	D
Below 60	F

7. Tentative Schedule:

Week	Chapter
1	The Basics and Tools of Astronomy
2	Chapter 1: Science and the Universe: A Brief Tour
3	Chapter 2: Observing the Sky: The Birth of Astronomy
4	Chapter 3: Orbits and Gravity Chapter 4: Earth, Moon, and Sky Chapter 5: Radiation and Spectra Chapter 6: Astronomical Instruments **EXAM1 (R 2/8)**
5	Chapter 7: Other Worlds: An Introduction to the Solar System
6	Chapter 8: Earth as a Planet
7	Chapter 9: Cratered Worlds
8	Chapter 10: Earthlike Planets: Venus and Mars Chapter 11: The Giant Planets Chapter 12: Rings, Moons, and Pluto Chapter 13: Comets and Asteroids: Debris of the Solar System Chapter 14: Cosmic Samples and the Origin of the Solar System **EXAM 2 (R 3/8) Spring Break**
9	Chapter 15: The Sun: A Garden-Variety Star
10	Chapter 16: The Sun: A Nuclear Powerhouse
11	Chapter 17: Analyzing Starlight
12	Chapter 18: The Stars: A Celestial Census Chapter 19: Celestial Distances Chapter 20: Between the Stars: Gas and Dust in Space Chapter 21: The Birth of Stars and the Discovery of Planets outside the Solar System Chapter 22: Stars from Adolescence to Old Age Chapter 23: The Death of Stars Chapter 24: Black Holes and Curved Spacetime **EXAM 3 (R 4/12)**
13	Chapter 25: The Milky Way Galaxy
14	Chapter 26: Galaxies
15	Chapter 27: Active Galaxies, Quasars, and Supermassive Black Holes
16	Chapter 28: The Evolution and Distribution of Galaxies Chapter 29: The Big Bang Chapter 30: Life in the Universe
17	**FINAL EXAM** Tuesday, May 8th (same time/same classroom)