



PHY 490 – Astrophysics and Cosmology – Fall 2023

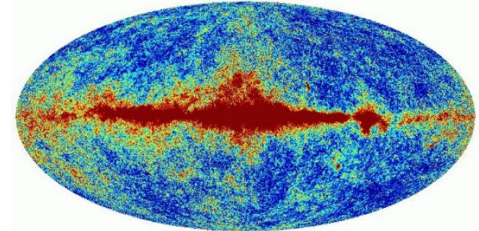
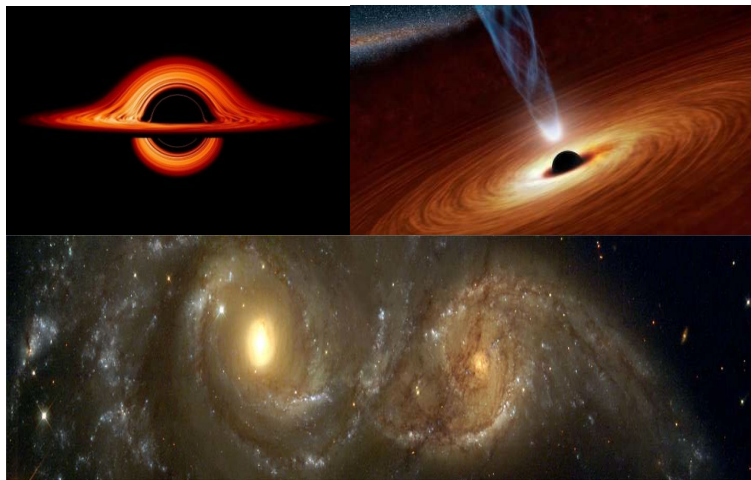
Dr. R. L. Herman, Mathematics and Physics

Course Description

Our views of the universe have changed a lot in the past century, and in the last decade. It is now believed that the universe is expanding and that we only know a fraction of it while we begin the search for dark matter and dark energy. If one runs the history of the universe backwards, what do we find? What was the universe like in the first three minutes? How does one do useful science for a time in which nobody existed? How did our view of the universe get to this point and where are we headed in the next decade?

In this course we will study the origin and general structure of the physical universe. We will be led into curved spacetimes, general relativity, black holes, and topics from the big bang to gravitational waves, gravitational lensing, and cosmological models of the universe. We will also explore topics such as the birth, life and death of stars, planets, galaxies, nebulae, dark matter, and dark energy.

Prerequisites: Students should be familiar with Classical Dynamics and Differential Equations. Modern Physics is a plus.



For further information: Dr. R. L. Herman, hermanr@uncw.edu