

Course: Galaxies, Stars and Planets

Syllabus

Instructor: Craig Lewis

1. Introduction – Our galaxy, solar system and its wildly different planets
2. Stellar Nurseries, Open Clusters, Globular Clusters
3. The Life and Times of Stars – Birth to Death, and planetary nebula, biggest/smallest
4. Degenerate matter – white dwarfs, neutron stars, black hole
5. Galaxies: Types and their evolution: birth, growth, and death (Hint they don't play well together)
6. Galactic Clusters, Super Clusters, Voids, Dark Matter, Big Bang
7. Science vs. Science Fiction
8. Exoplanets (Planets not in our solar system) and we have discovered thousands
9. Exobiology (Life in the universe – Water, carbon, and moons)
10. The search for extraterrestrial life & extraterrestrials
11. Strange Galaxies – quasars, gamma ray busters, all of the exotic stuff
12. Cosmology – Evolution of the universe – Dark energy – extra dimensions
13. What is unknown, spooky coincidences, hot research, next missions & graduation (with free snacks!)