Astro-286 - Exoplanets

General info:
In this course we will learn about the formation and evolution of planetary systems with an emphasis on the current unsolved problems in the filed. I have the following subjects in mind:

(i) *Beautiful physics:* planetary systems present a great opportunity to touch upon different physical processes, from fluid mechanics, accretion physics to dynamics.

(ii) *Solving problems:* facing a problem we have different ways to approach the solution, sometime understanding the physics and the assumptions are the key. I well focus on this through questions during class and homework assignments.

(iii) *Hot topic in the filed:* what are some of the current hot topics in the filed?

Some useful information:

- *Instructor:* Smadar Naoz, Email: snaoz@astro.ucla.edu
- *Reader:* Emily Martin
- *Webpage:* http://www.astro.ucla.edu/∼snaoz/Astro286/
- *When?* The class takes place on Tuesdays and Thursdays 2:00pm - 4:00pm.
- *Where?* PAB 3rd floor conference room
- *Home-Work assignments:* mandatory and will be 35% of the final grade.
- *Final:* There will be a final project - more details will follow.
- *Office hour:* Tuesdays 4:00pm - 5:00pm @ PAB 3-724

Syllabus

- Observations of exoplanets
- The two body problem, Kepler laws
- Protoplanetary disks and their evolution, which includes (but not limited to) accretion disks, viscus disks
- Planetesimal formation
- Terrestrial planet formation
- Gain plant formation
- Planet evolution, disk planet interactions
- Dynamical evolution of planets
- Multi-body dynamics
- Debris disks
- Habitability