Astronomy 190: Extrasolar Planets – Fall 2009

Instructor: Dr John Wisniewski
Time: MW 1:30 – 2:50pm
Place: PAA A210
Course website: http://www.astro.washington.edu/users/wisniewski/Main/Astronomy-190.html

Office Hours: Monday, Wednesday 3:30pm – 5pm, or by appointment
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**Course Description and Goals:**

The first planet surrounding a star outside of our Solar System was discovered in 1995. Since then, over 300 additional extrasolar planets (exoplanets) have been discovered. In this course, you will learn what is currently known about how exoplanets form and evolve, and the techniques which astronomers use to derive this information. It is my goal that, by the end of this course, you will have a sufficient understanding of exoplanets such that you will be able to comprehend and critically analyze the major exoplanet discoveries which will undoubtedly be reported in the popular media over the next 10-30 years (potentially including the discovery of Earth-like analogs).

**Grading Policy**
Homework = 20%
Midterm I = 20%
Midterm II = 20%
Final Exam = 20%
In-class exercises, class participation, attendance = 20%

A: 90-100; B: 80-89; C: 70-79; D: 60-69; F: 59--

Homework: Homework assignments are due at the beginning of class. I will accept late homework up until the day work is handed back to the rest of the class; however, I will deduct AT LEAST 20% per day from your score.

Final Exam: The final exam is on Monday December 14 from 2:30-4:20pm in PAA A210.

**Other**
Please mute all cell phones, pagers, etc before the start of class. Texting during class, or interupting the class with your phone, will **strongly** affect your class participation grade.

## Tentative Schedule

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| Wed Sept 30 | Course overview; review of basic stellar properties |
| Mon Oct 5 | Review of the Solar System |
| Wed Oct 7 | Birthplace of planets: protoplanetary disks I |
| Mon Oct 12 | Birthplace of planets: protoplanetary disks II |
| Wed Oct 14 | Planet formation theory |
| Mon Oct 19 | Debris disks I |
| Wed Oct 21 | Debris disks II; review |
| Mon Oct 26 | MIDTERM I |
| Wed Oct 28 | Extrasolar planet detection techniques: radial velocities |
| Mon Nov 2 | Extrasolar planet detection techniques: transits, astrometry |
| Wed Nov 4 | Extrasolar planet detection techniques: direct imaging, microlensing |
| Mon Nov 9 | Exoplanet statistics I |
| Wed Nov 11 | NO CLASS -- Veterans Day |
| Mon Nov 16 | Exoplanet statistics II |
| Wed Nov 18 | Exoplanet statistics III; review |
| Mon Nov 23 | MIDTERM II |
| Wed Nov 25 | Exoplanet characteristics |
| Mon Nov 30 | Search for Earth analogs |
| Wed Dec 2 | Future Missions |
| Mon Dec 7 | Astrobiology |
| Wed Dec 9 | Course review |
| Mon Dec 14 | FINAL EXAM |