Instructor: Masao Sako

Contact Information:
Office: DRL 4N2
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Resources

• Required text: *The Cosmic Perspective*, 5th Ed. by Bennett, Donahue, Schneider, & Voit
• Course website: [http://www.courseweb.upenn.edu/](http://www.courseweb.upenn.edu/)
  • All official announcements will be posted on Blackboard. Check regularly!
• Tutorial website: [http://www.masteringastronomy.com/](http://www.masteringastronomy.com/)

Course Content

• Assignments (40%):
  • Problem sets (PS): There will be a total of 9 PS. Solutions are posted soon after the PS is due. Late submissions will not be accepted. Each homework problem is worth 4 points, and is graded on the following scale:
    • 0 (missing or totally wrong)
    • 1 (something there, mostly wrong)
    • 2 (good try, partly right)
    • 3 (almost, but not quite, correct)
    • 4 (totally right)
  • A 2-page term paper. We will discuss more about this mid-semester.
  • An observing project. We will discuss more about this in a few weeks.

• Midterms (10% each):
  • Tuesday, February 17, 6:00-7:00 pm in DRL A1/8
  • Tuesday, March 31, 6:00-7:00 pm in DRL A1/8

• Final (30%): Thursday, May 7th, 3:00 - 5:00 pm (location TBD)
• Tutorials (10 %): Online tutorials at [http://www.masteringastronomy.com](http://www.masteringastronomy.com) (see below)
Other Information

- **Readings:** Students should skim through the chapters before class, and read them carefully after class.

- Before Tuesday, January 20, go to the tutorial website [http://www.masteringastronomy.com](http://www.masteringastronomy.com) and register for self-study activities (enter the access code that is printed on the Student Access Kit). Spend at least 1/2 hour exploring the site.

- The tutorials are worth a total of 10% of the final grade. No grade is assigned, just a check to see if they were done. *However, you will get extra credit for completing a tutorial with a perfect score.* The 3 sets of tutorials must be completed by the **days of the exams.**
  - tutorials for weeks 1 - 5 are due on February 17 at 6:00 pm
  - tutorials for weeks 6 - 10 are due on March 31 at 6:00 pm
  - tutorials for weeks 11 - 14 are due on May 3 at 3:00 pm
<table>
<thead>
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<th>Week 1 (1/15)</th>
<th>• Chapter 1: <em>Our Place in the Universe</em></th>
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| Week 2 (1/20, 1/23) | • Chapter 2: *Discovering the Universe for Yourself*  
• Chapter 3: *The Science of Astronomy* | 1/20 - PS#1 out |
| Week 3 (1/27, 1/29) | • Chapter S1: *Celestial Timekeeping and Navigation*  
• Chapter 4: *Making Sense of the Universe: Understanding Motion, Energy, and Gravity* | 1/29 - PS#1 due  
1/29 - PS#2 out |
| Week 4 (2/3, 2/5) | • Chapter 4 (continued)  
• Chapter 5: *Light and Matter: Reading Messages from the Cosmos* |  |
| Week 5 (2/10, 2/12) | • Chapter 5 (continued)  
• Chapter 6: *Telescopes: Portals of Discovery* | 2/10 - PS#2 due  
2/10 - PS#3 out |
| Week 6 (2/17, 2/19) | • Chapter 7: *Our Planetary System*  
**Midterm I (Chapters 1 - 6) 2/17**  
• Chapter 8: *Formation of the Solar System* | 2/19 - PS#3 due  
2/19 - PS#4 out |
| Week 7 (2/24, 2/26) | • Chapter S4: *Building Blocks of the Universe*  
• Chapter 13: *Other Planetary Systems: The New Science of Distant Worlds* |  |
| Week 8 (3/3, 3/5) | • Chapter 14: *Our Star*  
• Chapter 15: *Surveying the Stars* | 3/3 - PS#4 due  
3/3 - PS#5 out |
| Week 9 (3/13, 3/19) | • Chapter 15 (continued)  
• Chapter 16: *Star Birth* | 3/19 - PS#5 due  
3/19 - PS#6 out |
| Week 10 (3/24, 3/26) | • Chapter 17: *Star Stuff* | 3/26 - PS #6 due |
| Week 11 (3/31, 4/2) | • Chapter 18: *The Bizarre Stellar Graveyard*  
**Midterm II (Chapters 7 - 17) 3/31**  
• Chapter 19: *Our Galaxy* | 3/31 - PS#7 out |
| Week 12 (4/7, 4/9) | • Chapter 20: *Galaxies and the Foundation of Modern Cosmology* | 4/9 - PS#7 due  
4/9 - PS #8 out |
| Week 13 (4/14, 4/16) | • Chapter 21: *Galaxy Evolution*  
• Chapter 22: *Dark Matter, Dark Energy, and the Fate of the Universe* | 4/16 - PS#8 due  
4/16 - PS#9 out |
| Week 14 (4/21, 4/23) | • Chapter 23: *The Beginning of Time*  
[Chapter 24: *Life in the Universe*] (TBD) |  |
| Week 15 (4/28) | • Review | 4/28 - PS#9 due |