

* A100 * THE SOLAR SYSTEM

Tuesdays and Thursdays from 6:35-9:35 PM

Swain West Room 219

Section 6537

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Office Hours: Tuesdays, 11-12; Wednesdays 4-5; by appointment

General Introduction

Welcome to the wonderful world of solar system astronomy! As stated in the official department description, this course will cover a wide variety of topics pertaining to our general neighborhood of the universe. In addition to simply providing you with some pertinent facts, this class will also introduce you to the science of astronomy such that you may gain some deeper insight into what it is practitioners of the field actually do. Plus, since astronomy is a science that tends to be highly appreciated by society, this course will help you gain a deeper understanding of why that is the case and how you can become more involved in it.

Materials

The only required text for this course is *The Cosmic Perspective, Fourth Edition* by Bennett, Donahue, Schneider, and Voit. It should be available in the campus bookstore, online, and from a multitude of other sources.

Requirements

Work for A100 comes in three flavors, described thusly:

☉ Projects

- ☪ Over the course of the semester, you will be asked to complete three separate projects. These are designed to expose you to some facets of astronomy not explicitly covered in class. Greater detail will be provided on each project over the duration of the class, but the general topics and due dates are:
 - ☞ Research a NASA mission, **Due Thursday, July 6th**
 - ☞ Bad Astronomy, **Due Tuesday, July 25th**
 - ☞ Observing the night sky, **Due Tuesday, August 8th**
- ☪ Overall, these projects account for 40% of your final grade.

- ☉ Exams
 - ☞ There will be **two** exams for the class
 - ☞ A midterm examination is scheduled for **Thursday, July 13th**. It will account for 15% of your final grade.
 - ☞ A **comprehensive** final is scheduled for **Thursday, August 10th**. It will account for 20% of your final grade.
 - ☞ Both exams will occur during class time on the scheduled days.
- ☉ Quizzes
 - ☞ Periodically, you will be given quizzes in class. These will be brief (10-20 questions) evaluations covering only the material that has been discussed in class since the prior quiz.
 - ☞ The dates for each quiz are listed in the schedule section of this syllabus.
 - ☞ Averaged together, the quizzes will account for 25% of your grade.

Recommendations

It is absolutely *imperative* that you come to class. The lectures are what the quizzes and exams will be based on, so good attendance works purely towards your benefit. Besides, a true understanding of the material can only really come from experiencing the various demonstrations, examples, and other materials I intend to present in class. Also, since the semester is so brief, missing one day of class is nearly equivalent to missing a **week** of material during the normal school year, and that is not good. Outside of the classroom, there are office hours! Please feel free to use them. Astronomers like talking about astronomy (that's why we do this), so if ever you have any questions, quandaries, or figments, please share.

Restrictions

Since the summer semester is relatively short and dense, it is important that all work be completed in a timely manner. Therefore, the following policies will be enforced:

- ☉ Late projects will be accepted, but the grade will be decreased by 15% for each day that passes beyond the due date.
- ☉ Missed quizzes and exams can be made up without penalty **only if you notify me of your absence from class PRIOR to the scheduled time of the evaluation**. Otherwise, you will be permitted to make up the missed work, but you will receive only 60% of the score you earn.
- ☉ As per usual, you are expected to follow the IU standards of academic conduct. Therefore, such things as cheating, plagiarism, and other nasties will not be tolerated (i.e., you will get **zero** credit on work found in violation of said standards).

Schedule

Tuesday, June 20th: Introduction to the course, astronomy, and the night sky. Sections 1.1-4, 2.1, 3.4-5, and 7.1-3.

Thursday, June 22nd: More on the sky, a discussion of time, and a brief history of astronomy. Sections 2.4, 2.2, 3.1-3, and S1.1-3. **Quiz.**

Tuesday, June 27th: Light and telescopes. Sections 5.1-5 and 6.1-4.

Thursday, June 29th: The basic physics of astronomy. Sections 4.1-5. **Quiz.**

Tuesday, July 4th: NO CLASS!

Thursday, July 6th: Mercury and Venus. Sections 9.3, 9.5, 10.3, and 10.5. **NASA mission project due.**

Tuesday, July 11th: Earth and Moon. Sections 2.2-3, 9.3, 9.6, 10.3, and 10.6. **Quiz.**

Thursday, July 13th: Mars. Sections 9.4 and 10.4. **Midterm Exam.**

Tuesday, July 18th: Jupiter and Saturn. Sections 11.1-3.

Thursday, July 20th: Jupiter and Saturn's moons, Uranus, and Neptune. Sections 11.1-3. **Quiz.**

Tuesday, July 25th: Pluto, the outer solar system, and other junk. Sections 12.1-4. **Bad Astronomy project due.**

Thursday, July 27th: the Sun. Sections 14.1-3. **Quiz.**

Tuesday, August 1st: Solar system formation and extra-solar planets. Sections 8.1-5 and 13.1-4.

Thursday, August 3rd: Life in the universe. 24.1-5. **Quiz.**

Tuesday, August 8th: Space exploration and travel. **Observing the night sky project due.**

Thursday, August 10th: **Final Examination.**

