



ASTR 122 – The Life and Death of Stars

Winter 2016, CRN 20936

Monday, Wednesday 4:00 – 5:20 PM

Friday, 4:00 – 4:50 PM

Lawrence Hall, Room 177

Dr. R. Scott Fisher

Willamette Hall, Room 145

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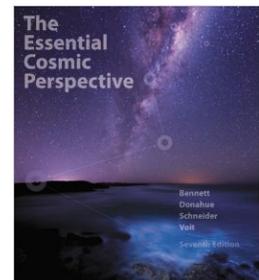
Office Hours

Monday, Tuesday, Wednesday, Friday 11:00 am – 12:00 pm

Tuesday, Friday 1:00 pm – 2:00 pm

Please make an appointment for a guaranteed meeting!

Text: The Essential Cosmic Perspective (7th Edition)
By Bennett, Donahue, Schneider, & Voit
Publisher—Pearson/Addison-Wesley, San Francisco



There is a custom text for this course available at the Duck Store.

INTRODUCTION

The goal of this course is to give you new knowledge about the Universe we inhabit and in particular a conceptual understanding of basic astronomical topics. We begin by considering the Universe that we see with our naked eyes — for example, the appearance of the night sky and the phases of the moon. We also ask basic questions like “What is the place of the Earth in the Universe?” and “How can I understand the astronomy I encounter in my life?” Answers to those questions give us the perspective needed to deeply appreciate the physical world we live

in and to start to understand the vast scales of time and distance of the Universe itself. At the same time, we develop an appreciation for the tools and concepts used by astronomers that form the practical basis for their work. These tools are both broad, such as the so-called Scientific Method, and specific, such as those used to determine the sizes and compositions of stars and planets.

We will then delve into the science of modern observational astronomy, with an emphasis on how the largest telescopes in the world operate. Once we learn about the facilities, we will investigate how they are used to study the cosmos.

The course uses the required text as a complement to the information covered in the class lectures. Indeed, the class lectures will focus only on particularly difficult or interesting concepts from the reading assignment, but you will be responsible for all the assigned reading even if it is not discussed in class. You should attend class and keep up with the reading. Experience shows that students who do well are those who attend class and do not leave the reading until just before exams.

The exam dates for the term are fixed and will be announced on the class Canvas site.

Generally, a class period will consist of me giving a lecture about the topic for the day. During my class lectures I will:

- Highlight and explain difficult concepts from the reading assignment
- Discuss important facts, figures, and problems within the reading assignment
- Incorporate additional material into the lectures to connect the reading topic to modern astronomy and current research

Please take note that class time will not be used to “go through” the assigned chapter for the day. This means that the best way for you to be prepared for class is to:

Read the assigned chapter BEFORE you come to the class lecture.

If you do this, you will be more prepared to follow along with me as I discuss the information. Prepping for the class will also make it easier for you to participate in class activities like Q&A sessions, and/or other extra credit activities.

LEARNING OUTCOMES

To give you an idea of what I want you to learn in our class, I've written the following learning outcomes:

- You will gain a “cosmic perspective” that will give you a true and accurate idea of the scale of the universe. This perspective will include a basic understanding of the relative and absolute size of astronomical objects as well as the age of the universe.
- You will learn to identify constellations, planets, and other objects in the sky and where to look for more information about them.
- You will gain an appreciation of modern astronomy and an understanding of how the biggest telescopes operate and what their limitations are with respect to discoveries.
- You will gain critical thinking skills in astronomy that will allow you to start to discern whether or not an image is real or “photoshopped”.
- You will gain astronomical knowledge that will allow you to form educated opinions about astronomy and space related topics that you encounter in the media.

GRADING

Your final grade will be made up of several components that will include; grades on exams, grades on homework assignments, and class engagement. There will also be multiple opportunities for extra credit. The most important thing to understand about how your grade is determined is this:

I do not give you a grade – I assess your performance in the class.

Ultimately, your grade will be determined by your performance in the class, not by me. The way I will assess your performance is through exams, homework, class participation, and extra-credit. Here are the components of your final grade:

- Homework – 25%
- Exam #1 – 15%
- Exam #2 – 25%
- Final Exam – 30%
- Class Participation/Engagement – 5%

Here are important notes about the grading scale:

- The weight of the exams increases as the term progresses. This is to allow you to become familiar with my testing style.
- The exams are **cumulative**.

- Anything that is said in class, displayed on slides, or written in the book is testable.
- There are no scheduled makeup exams. However, I am somewhat willing to work with you on special arrangements.
- The 'participation/engagement' category may include my personal assessment of your performance in the class.
- Extra credit opportunities will be clearly explained.
- These conditions are subject to change.

FREQUENTLY ASKED QUESTIONS

Q: Can I use my laptop in class?

A: Yes. There are no restrictions on laptops or tablets in class. The most important thing is to **MAKE SURE THEY ARE MUTED**. Interruptions of class due to poor electronics management are rude to both your classmates and to me. **This is a huge pet peeve of mine**, so be sure to silence your cell phone and mute the sound of your laptop.

Q: Do I need to buy the book?

A: I understand that books are expensive, but there is no better way to have access to the information you need to pass the class. Feel free to buy an online version, rent a version, or buy a used version. You will **not** need access to www.masteringastronomy.com to do homework and other class assignments.

Q: Do you take attendance?

A: Sometimes. Attendance plays a role in your final grade, as it is part of "Class Engagement". It is difficult to assess performance if there is no performance to assess. The bottom line is, come to class.

Q: Can I turn in my homework late?

A: No. I will be very clear with homework deadlines.

Q: Are there makeup exams?

A: Possibly. However, you will need a legitimate and verifiable reason for missing the exam in class.

Q: Will you curve the class grades?

A: No. Your grade is determined by how well you learn the class material.

Q: Will this class be awesome?

A: Not just awesome.... **astronomically** awesome.