INTRODUCTION
The goal of this course is to give you a basic knowledge of the Universe. 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. 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 positions and distances to stars. We also ask basic questions like “How large is the Universe?” and “What is light?” Answers to those questions permit us to interpret observations of distant celestial sources like nebulae, star clusters, and galaxies.

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 properties and evolution of galaxies, galaxy clusters, and the Universe as a whole. Using our newfound knowledge we will also learn about cosmology as we study the birth, evolution, and ultimate fate of the Universe we inhabit.

This course follows the text closely, as indicated on the schedule handout. The dates indicated in the schedule are approximate: chapter and exam scheduling changes will be announced in class, so be alert. 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. The class lectures will be available on our class Blackboard site. 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.
Generally, a class period will consist of me giving a lecture about the topic for the day with time reserved for a Q&A session with the class. 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. As discussed below, these are a significant component of your final grade.

**GRADING**

Your final grade in this class will be made up of several components that will include; grades on exams, grades on quizzes, overall class engagement, and extra credit activities. The most important thing to understand about how your grade is determined is this:

*As your instructor, I do not give you a grade – I assess your performance in the class.*

This is a very important concept to understand. 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, quizzes, homework, class participation, and extra-curricular activities. To calculate your final grade, I will use this formula:

Here is a breakdown of how these components will make up your grade:

- Grade on Midterm – 25%
- Grade on Final – 25%
- Grade on Quiz #1 – 10%
- Grade on Quiz #2 – 10%
- Average grades on homework – 20%
  - Note this this is an average. If you miss a homework or tank on a homework, that will lower your average, but it will not completely overwhelm this part of your final grade. **THERE ARE NO MAKEUP HOMEWORKS.**
- Class engagement – 10%
  - Note that this will be a subjective determination of how engaged you were in the class.
- Extra Credit – up to 10%
  - Chances for extra credit will be announced in class.
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: Yes. 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.

Q: Is this a class that will use Clickers?
A: Yes, sometimes, and no, I don’t know when. Please bring them to every class for possible use.

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: Are there makeup quizzes?
A: No. Quizzes will be given during class time and class time only.

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. In general, makeup exams will be oral. That is, you and I will meet and I will test you on your knowledge of the material through discussion, Q&A, and working out examples in a one-on-one setting. Protip: You do not want to take a makeup exam.

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: Yes. And not just awesome…. astronomically awesome.