Announcements

• Welcome to Astronomy 101: Principles of Astronomy! This handout is much like the ones that you will receive every Tuesday throughout the course. On them, you will always find current class Announcements and the weekly Reading Guide and Homework Assignment.

• Adding this class. This class (both sections that I am teaching) is currently full: the maximum number of students (75 for Section 9 at 11:00 AM; 180 for Section 5 at 2:00 PM) who can take the course have signed up during pre-enrollment and, unfortunately, the fire code for the lecture rooms does not allow us to register additional students beyond these limits. However, if you want to be in either of these sections and were not able to pre-enroll, it may still be possible. Here's what you need to do:

1. Fill out and turn in the “student information” sheet that was handed out during the first class, indicating your desire to be in the course (and in which section).

2. Send me an email (leonard@sciences.sdsu.edu) telling me which section you hope to add. Based on when I receive your email, I will add you to the “waiting list” for that section. The earlier you email me, the higher you will be on the waiting list. I will reply to your email and tell you your position on the waiting list.

3. Come to class. Immediately before each class, I will look at the enrollment numbers on the WEB to see how many pre-enrolled students have dropped (note: if you are pre-enrolled and do not wish to take this course, please withdraw from it to make room for others!). I will then generate that number of “add codes”. At the start of each class, then, I will read the names of those students from the top of the wait list for whom I have an add code; if you are one of them, simply put your hand up when I call your name and then come up at the end of class and I’ll give your add code to you. If you are not in class when I read your name, it will go to the next student on the list.

4. Once you get an add code, you can enroll in the course!

It may take a few classes to establish who is in the course; the key thing if you want to get in is to get on the waiting list, and then to continue coming to class. Past history has shown that anywhere from ~5 → 20 students will typically drop the course by the end of the drop/add period (September 17).

• Buy the textbook. Please purchase a new copy of the course text: Voyages To the Stars and Galaxies (Third Edition), by Andrew Fraknoi, David Morrison, & Sidney C. Wolff. It is available at the bookstore for $56.99 (new). Note that you must purchase a new copy of the text (the bookstore is not selling used copies), since only new copies come with a valid “access code” that allows you to access the on-line material available at the textbook website. This on-line access is required for the course, as it will contain all of the weekly reading quizzes throughout the semester that you must take. It will also give you access to helpful tutorials, active figures, and exercises to complement your reading for each chapter. More details on this aspect of the course will be given in Thursday’s (August 30) class.

Note: If you have already gotten a used copy of the text, it is possible to purchase the on-line access separately, for $32.39, through the text’s web-site, so you don’t necessarily need to return your book; I’ll give details on how to do this on Thursday. Also, there will be one copy of the text available at the Reserve Book Room in the library. With over 250 students taking this class, though, you may find it difficult to access this reserve text, and so I strongly recommend purchasing your own copy.

• Buy the Course Reader. Please purchase a copy of the Course Reader that is required for this class.

It is available at the bookstore. It contains Powerpoint slides, handouts, and additional reading material required for the course.
• Check out the Course Web Site:
  
  \[ \text{http://sciences.sdsu.edu/~leonard/astro101} \]

On it you will always find the latest information about the class, including all handouts as well as all
Powerpoint lecture slides shown in class.

Reading Guide and Homework Assignment

For this first week, only a reading assignment is given below; future weekly handouts will also include
homework to be completed at the on-line textbook website. I recommended that you complete these
assignments in the order suggested on these handouts.

1. Read the Course Syllabus handout. It contains all of the material relevant to the content and grading
of this course.

2. Read Voyages to the Stars and Galaxies, Prologue: Sections 1 – 4 (pages 1 – 5).

   These are good sections to read right after the first class lecture on Tuesday, as they cover much of
   what was gone over. In this reading, you will again encounter the great supernova of 1054, along with
discussions about the nature of science and the “laws” of nature and how scientists go about deriving
them. Section 4 introduces you to scientific notation, the mathematical format in which very large,
and very small, numbers will be written during this course [next week, you will be given (actually, it’s
in the Reader) a “Mathematical Toolkit” handout, which will review all of the additional necessary
mathematics for this class].


   Towards the end of your book, this useful appendix gives some more detail on scientific notation.


   Again, towards the end of your book, this appendix provides a useful review of the metric system
that will be used during the course.


   This completes the introductory material and goes into somewhat greater detail than we did in class
in some areas. Sections 5 and 6 are particularly important, as they introduce the concept of the light
year (LY), and the profound fact that as one looks out into space, one also looks back in time. Be
sure to get your head around this one!

   Sections 7 and 8 present a very broad overview of the “big picture” of astronomy, introducing you
to the definitions of planet, galaxy, as well as the large-scale structure of the universe. You will also
run across a description of one of the great mysteries of astronomy, the apparent existence of dark
matter: a mysterious form of matter that evidently pervades the universe and yet we do not know
what it’s made up of! This may sound unbelievable to you but, rest assured, all of these topics will
be discussed in much greater detail later in the course; the main purpose of these sections is just to
orient you to “our place in the universe” for now.

   Section 9 presents a discussion of the very small: atoms and molecules. Finally, section 10 humbles
humanity by placing all of our recorded history in the last 9 seconds of the “cosmic calendar”. The
Universe is very old, and we are relative newcomers on the scene.

6. Voyages to the Stars and Galaxies, Chapter 1: Sections 1.1.1 – 1.1.2 (pages 19 – 22).

   This covers what we did in class on Thursday, but is worth spending some time on, as it may be
quite difficult, at first, to visualize the nature of the celestial sphere. Remember, the idea of a
“celestial sphere” surrounding the Earth is just a conceptual scheme by which we try to make sense
of the celestial motions that we observe in the sky: we now know that the sky is not made up of a
transparent crystalline sphere of material out there with stars embedded in it like tiny jewels. But,
such a conceptual scheme does help us to organize our thoughts about the apparent celestial motions.
If any of this gives you trouble, feel free to come in for office hours for a one-on-one tutorial until you
get it!

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