Additional Course Information for PHYS 0165. The information on this sheet supplements (or in some cases may replace) material on the course information handout that applies generally to PHYS 0155 and PHYS 0165.

DISCUSSION: There will be an additional discussion section for PHYS 0165 students only, in which we will work problems and discuss a more mathematical approach to course material. This meets Tuesday, 1:30 to 2:45, in Bi Hall room 538. All PHYS 0165 students should plan to attend this section in addition to lectures and one lab section for PHYS 0155.

SUPPLEMENTARY AND REFERENCE BOOKS: The following texts may be useful in giving a different perspective and, and (in the first two cases) greater depth than the Bennett et al. text in many areas we will cover. Occasionally a few pages from one of these may be assigned specifically for PHYS 0165. All will be on reserve in the Armstrong Science Library. We will also cover some of the supplementary chapters of the Bennett et al. text that will not be assigned for PHYS 0155.

An excellent book, of broad scope and at times brilliant insight. This was used as the text for a slightly higher level course, PH266, several times. Although it’s now quite out-of-date regarding observational results, it remains a truly excellent book—you might pick up a copy over the Internet if you find one at a good price.

An excellent and relatively current textbook that seems just about right for people in PHYS 0165. I’m not as familiar with it as the rest of these, but suggest you have a look.

Another introductory level book aimed at a scientifically literate audience.

This European introductory textbook is not as glitzy as ours, but is significantly more sophisticated both in the concepts it presents and in the mathematical level.

This is another classic European (German) introductory textbook, also at a higher level than Cosmic Perspective. It has the additional virtue of being quite up-to-date.

Some reference books you may find useful include:

A wonderful compendium of astronomical data, but bedtime reading only for insomniacs (Armstrong Library, reference shelf).


PROBLEM SETS: PHYS 0165 will usually have its own assignments, but you should always pick up a PHYS 0155 assignment also. Many of the questions/problems will typically be the same as those for PHYS 0155, but other ones, usually more analytical, will replace or supplement ones from the PHYS 0155 assignments. Some important results may get derived or explicated through these problems. Problem sets will generally be due on Friday afternoons. Please do your problem sets neatly, using one side of the page only, and do not use paper ripped from
LAB and OBSERVING EXPECTATIONS: PHYS 0165 will have the same set of lab options as PHYS 0155, but occasionally I may particularly encourage you to do a particular lab, and we may do a more sophisticated analysis. In addition to the standard “menu” labs, I encourage you to think of possible independent observing projects you might do. I am quite open to substituting projects you devise for the normal labs.

EXAMS: There will be two mid-term exams, both scheduled for the evening, so you will not have time pressure. These will be October 11 and November 15. These are the same dates/times as the PHYS 0155 exams. There will be separate exams for PHYS 0155 and PHYS 0165. Some PHYS 0165 questions may be the same as those on the PHYS 0155 exams, but as with the homework, others will be more quantitative ones for PHYS 0165 only. Grading for the two courses will also be done separately. You will be at neither an advantage nor a disadvantage by being in PHYS 0165. Since there may be somewhat more, or at least more sophisticated, work during the term for PHYS 0165 when compared with PHYS 0155, PHYS 0165 students will be exempted from the final exam!

GRADING: Components of grades in PHYS 0165 will be approximately:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>Written Assignments</td>
<td>28%</td>
</tr>
<tr>
<td>Midterm exams</td>
<td>42%</td>
</tr>
<tr>
<td>Observations and Labs (first half)</td>
<td>15%</td>
</tr>
<tr>
<td>Observations and Labs (second half)</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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</tbody>
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(You will note that this is somewhat different from that for PHYS 0155. The main difference is that the PHYS 0165 problem sets will be weighted more heavily, the two midterm exams a bit more heavily, and the final exam omitted.

ASTRONOMY NEWS: Each week, I’d like a volunteer to give a 5-min review of some recent astronomy news story (perhaps this may be new within the last week, but anything from, say, the last month or so is fine). Guidelines: NO PowerPoint, but you may want to show one or two transparencies, and/or make copies of a 1-2 page handout, e.g. a copy of a news story. See me if you need help with making transparencies or copies.

Suggested sources:
New York Times. Especially the “Science Times” section on Tuesday, but frequently important stories hit the news on other days—especially Thursday, when Nature goes to press, and Friday, when Science does.  
Science News (A popular-level magazine, very skinny, weekly)  
Nature (weekly) see especially the “News and Views” section  
Science (weekly)  
New Scientist (British semi-popular magazine; weekly)  

Web sites: Most major observatories, ground-based and in space, have web sites with press releases, etc. Here are a few:  
NOAO: www.noao.edu  
Hubble Space Telescope: www.stsci.edu  
Chandra X-ray Observatory: www.chandra.edu  
NASA’s Astronomy Picture of the Day; other NASA sites  
European Southern Observatory