

# Astronomy 300, Fall 2007: End-of-Semester Notes

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First, almost all of our course material can be found online on the BADGrads Wiki (<http://badgrads.berkeley.edu/doku.php?id=astro300>). Most of the pages on our version of the Ay 300 wiki are in the namespace 'astro300\_f07', which makes it easy to create a new, updated version of Ay 300 wiki pages, but still link to all of our content from the Fall 2007 semester. On the wiki is all of our handouts, evaluations, assignments, and lesson plans. Some of the readings that we could not find digital copies of are printed out in hardcopy form in our Ay 300 binder, along with a few copies of some of our assignments and handouts. Important documents that are **not** available digitally are:

- "Collaborative Learning 101"
- Slater and Adams (there is a copy in the Astronomy library on the 7th floor of Campbell)
- "How Experts Differ from Novices" (online, but hard to read there)
- "A Research-Based Rubric for Developing Statements of Teaching Philosophy"

We both felt that Ay 300 was, in general, quite successful this year. This was corroborated by our Mid-Semester Evaluations, the official Department Evaluations, and our Supplemental End-of-Semester Evaluations (copies of which can be found in the folder with our other course material). Most of the students reported that we covered the right topics, in the right order, and most felt that the correct amount of time was spent on each topic. All students stated that the course was useful for them and made them better instructors.

Many students did, however, report a few suggestions for improvement, which we will discuss here.

## Scheduling and Arrangement of Topics

Following the usual convention, class met once a week for two hours a day. Early in the semester, the goal was to give the students basic preparation as quickly as possible: we met a week before classes started, scheduled class to avoid the Labor Day holiday, and attempted to cover a large number of topics as rapidly as possible in the first few weeks (some topics we returned to later in more detail). Nevertheless, many students felt that a few more topics (namely grading and homework/worksheet design) should have been discussed earlier in the semester.

By its nature, Ay 300 is a front-loaded course: GSIs need to know a lot of practical information about how to run sections very early in the semester. We already felt that there was a chance that we were trying to cram too much information into the first 2-3 course meetings (with the first course meeting taking place the week before classes even started), but several students expressed that in the first few weeks even more material would be useful! There was discussion of the possibility of future Ay 300 classes meeting for 3 hours (as opposed to the usual 2) for the first 2-3 course meetings. This, or holding an additional standard-length meeting in the first two weeks, might be revisions that future instructors may wish to consider. This could be compensated for by holding abbreviated meetings later in the semester. On the other hand, given the difficulty of scheduling a single time that everyone can agree on, this further complication to the scheduling, and possible fatigue from too many classes early on, may not justify the change.

There were no other complaints about the arrangement of topics in the evaluations. From the instructors' point of view, there were some situations during the semester when we realized that an important, though usually minor, topic had been left out of our preliminary syllabus we'd drawn up at the start of the class, and so we had to quickly find room for it during the next week, but this created little difficulty, and we hope that the presence of our entire course's planning material will avoid this situation in the future.

We note that at the beginning of the semester, both of us expected that around the start of October we would effectively run out of material and end up ending class early most days or cancelling class entirely some weeks. This never materialized: we were surprised how much material we wanted to cover, even if it wasn't as directly and immediately practical as the content during the first two weeks, and even towards the end of the semester we struggled to keep the class within the 2 hour time allowed. We had told the students early on to expect slimmed-down, less-than-two-hour classes toward the end of the semester and it probably irritated them slightly when that never happened (in fact, we often went over by a few minutes), so we strongly advise next year's instructors not to unnecessarily raise expectations in this way!

### **Homework**

In past years the required homework for Ay 300 involved only a handful of projects. This year we instituted weekly short assignments - either writing (always less than one page) or reading, as well as a "teaching log". In general students reacted to this as hoped, actually doing the reading and turning homework in on time most weeks. Some students did complain that several assignments seemed to be mostly filler or busy-work, a criticism that is probably accurate: to try to create a routine and continue the flow of the class we insisted on an assignment every week. Homeworks were designed to be extremely quick (10 minutes or less in many cases) so any demands on the students' times could be minimized; hopefully any ill effects were insignificant. Nevertheless, more thought and planning could certainly be put into some assignments to make them more useful. Alternatively, some minor assignments could be combined into a multi-week project with weekly progress reports.

We did not have time to check the teaching logs thoroughly, since we never collected them - we only quickly skimmed it at the beginning of class once a month to be sure it existed and was being updated. However, we were impressed by the response students gave to it: even though we clearly were not grading them on it or judging them in any concrete way, many students filled up multiple-page descriptions every week with a detailed plan and feedback, because (one would hope!) that the log was actually useful to them.

### **Specific Topics**

As expected, students responded most positively to the immediately practical content early in the semester (preparing section, lecturing, review sessions, demos, etc.) The only general topic which multiple students felt that too much time was spent on was pedagogy, but several other students specifically stated that they liked the pedagogy lectures and one would have liked to see it discussed more.

Most weeks we spent some time talking about possible activities for the next week. Most students liked the specific demo ideas discussed and actually presented in Ay 300, but some found the specific worksheet ideas less helpful. They also found it was very helpful to bring in sample homework and exam/quiz questions that they had written and then discuss them with the class. (Something we did not do too often, but could easily be expanded to be a core part of the class.)

Other likes were the ability to practice speaking in front of a group (practice mini-lectures and review sessions) and having specific time set aside to reflect on teaching, both theoretically and practically (i.e. taking the last ~10 minutes to plan out the next week's section).

### **Classroom Style and Structure**

Class usually opened with a quick summary from each student about their section that week. After any logistical remarks, this was usually followed by a "lecture" from the instructors. This was kept to a minimum as much as possible, though it probably still was the largest single component of the class. Typically the two instructors stood or sat near the front of the room and went back and forth, alternating who spoke about the topics to be discussed that day. While one instructor was speaking, the other would be free to comment and add thoughts and ideas, something that (hopefully) also encouraged the students to do the same - on most topics there was a good deal of student participation and we were able to have an informal back-and-forth dialogue with the class. Whenever possible, we would segue into some sort of class activity afterwards, sometimes returning to additional "lecture" topics afterwards. During the last 5-10 minutes of almost every class we would conclude by having students discuss their section plans for the upcoming week with each other while the instructors wandered the room to eavesdrop on the conversations and occasionally offer comments or advice.

Students seemed to like the overall tone of the course, and there were no complaints about the structure, except for one student who said that we were a little too verbose during the lecture segments. The same student also requested more classroom-simulation activities (such as mock lectures) early on.

### **Other Notes**

Students always like free food and drink, so bringing snacks (or even possibly full meals if class takes place during a meal time), especially during a 3 hour class, is highly recommended.

In conclusion, Ay 300 is a great course. Not because we made it great, but because years and years of Astro grads have continued to pass down their knowledge and advice to younger generations of GSIs and we are merely two links in that great chain of awesomeness. Our hope is that we have added at least a little bit to the community knowledge of Astro GSIs and Ay 300 instructors and that future Ay 300 instructors will improve upon what we, and many others, have already done.

Sincerely,

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