

Teaching Course Content

1. *Strategies for getting off to a strong start in your section.* A discussion on setting expectations, building student confidence, and creating a supportive and productive learning environment. This can include tips on what to do on the first day of lab section to establish your role as the TA and create a productive learning environment.
2. *Facilitating productive lab sessions.* How to minimize inappropriate lab behavior, such as texting, excessive chatting, insufficient lab clean up, or unexcused absences. Also a discussion on ensuring that lab partners work together and what to do if one partner is left doing all of the work or insists on doing everything.
3. *Troubleshooting in the lab.* The importance of explaining to the students that the labs are based on current research, which means that (like “real” research), procedures or equipment don’t always work perfectly.
4. *How to maximize student learning in office hours.* Tips for how to help students solve problems without just giving away the answers. Also, for crowded office hours, how to facilitate students teaching each other.
5. *Handling questions that you don’t immediately know how to.* Strategies for handling difficult questions from students, such as telling your class you will get back to them with a complete answer in the next recitation or by email. Also, the importance of using your TA team as a resource and realizing that it’s ok that you don’t know everything in every situation.
6. *How to get feedback during the semester on your teaching.* For example, many TAs give out index cards after certain labs to get feedback or give mid-term surveys to their students.

TA-Student Interactions

1. *Balancing classwork, lab work and TAing.* A discussion of how to balance your own time during the first semester and how to deal with the stress of trying to teach while simultaneously taking classes and deciding on a lab. This can include practical tips, such as letting students know you will respond within 24 hours to any emails to avoid 3 am emails the lab reports are due.
2. *How to deal with Facebook friend requests.* TAs have different strategies for establishing boundaries. A discussion of the different options for maintaining a professional relationship in the age of social media. For example, one TA set up a Facebook page for the lab section for class communication in addition to the stellar page, while other TAs avoid accepting friend requests from students. Also, a discussion of the considerations of giving out cell numbers or other personal information.
3. **Walking the line between teaching content and giving away exam questions:* As the semester progresses, you notice that grades in one section are always higher than any of the others. The exam score averages, the lab report scores and even the participation grades for this section are always better. You begin to wonder what is happening in this section. You later overhear this TA state that he is happy his students “are the best” and

laughs that it is because he is the “best teacher”. You begin to think this TA may be giving his students answers to the exam and coaching his students on written report guidelines. What do you do and how should you approach this situation? How do you avoid being this TA?

4. **Careless language:* While teaching your students about staining DNA gels, you introduce the topic of ethidium bromide. During your discussion of safety with this chemical, you say it is a carcinogen and therefore causes cancer. You also jokingly state “Cancer is bad and because I don’t want you guys to get cancer, don’t touch these gels with your bare hands!” Several days later a student comes to your office hours with a formal complaint. She tells you that her father had died of cancer the previous summer and she found your comment offensive and cruel. She further states that she is going to report you to higher authorities on campus if you continue to act and speak disrespectfully in class. What do you do and how should you approach this situation?

Student-Centered Issues

1. *The “advanced” student that is constantly challenging you or questioning your authority or expertise.* The case of a student who tries to show off with questions meant to undermine your authority as the teacher.
2. *Plagiarism in lab reports.* A discussion on plagiarism in writing lab reports, either by not properly citing sources or (more commonly) by copying or sharing sections of a report between lab partners. How and when to review plagiarism rules with the students and how to discuss this in terms of academic consequences and personal and scientific integrity. Stressing that plagiarism will not be tolerated is important in all laboratory classes both at the beginning of the semester and as lab report deadlines approach.
3. *The student who is hyperfocused on grades.*
4. **One of your students, Sara, has missing a lot of class lately. She has gone from being a happy, independent student, to unhappy and stressed out. You notice her grades are beginning to drop and she failed to even pass in the last written assignment. In class one day, you casually ask her if she is okay and she blatantly says “its none of your business.” Her lab partner pulls you aside after class and confides in you that she feels that she is worried about Sara. The lab partner says that she is worried that Sara is “headed down a dangerous road” but won’t give you any more information than that. What do you do and how should you approach this situation?*

* Challenges written by Melissa Kosinki-Collins

Teaching for diverse students

1. Sam is an African American student who is in your class. You have known Sam since his freshman year and have watched him work extremely hard on his academics. Recently, Sam has expressed interest in attending graduate school, and you have tried to mentor Sam as you realize he is the first person in his family to attend college never mind graduate school. Sam enters your office in tears one afternoon. When you ask what is wrong, Sam states that he just had a meeting with his physics professor about an exam regrade. Sam states that he feels points were unfairly deducted and went to the physics professor for an explanation and justification on the grade. Sam tells you that after a half hour conversation, the professor became frustrated and said, "I am not sure why you are so worried about this grade, anyway. You are going to get into any graduate school you want because you are black." What do you do and how should you approach this situation?
2. The students in the lab sections for an engineering course are required to work in pairs. Laurie, a first-year graduate student, is assigned as the assistant for the lab sections at the beginning of her first term. During the fifth week of classes, Laurie is approached by Fred, who says that his partner, Mike, is never prepared and that he spends at least 30 minutes during each two-hour lab explaining the material to Mike. The rest of the time, Fred explains, he ends up performing the experiments while Mike only watches. Laurie mentally notes that Mike has been asking a lot of procedural questions during lab time, which has been cutting into her ability to spend an equal amount of time with the other teams. At the next lab session, Laurie reiterates that she expects all students to email their procedural questions to her beforehand so that she will not have to use lab time to answer these questions. The professor tells Laurie that Mike has a special-learning waiver that requires that he be given extra time for reading-based tests. How should Laurie approach this situation with Mike and/or Fred? How should Laurie approach the material in the lab to be equitable to all students?