Graduate Student Orientation

Being a Teaching Assistant in a Science Lab

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Slide #1

Narrator: Hello, everybody. Welcome to Graduate Student Orientation breakout session.

Slide #2

Narrator: Hello, everybody. Welcome to Graduate Student Orientation. This is a breakout specifically for being a TA in the science lab.

Slide #3

Narrator: We will begin by talking about the three types of assistantships that are very common at the University. The first, the teaching assistantship where you get to teach a lab or a lecture session. Typically, the new TA's are given freshman level labs. More experienced TA's are given graduate level labs.

For research assistantship, you typically work on research projects under different professors. Graduate assistantships - they are a GA not a TA.

Slide #4

Narrator: We will begin by talking about the overview, the different types of assistantships offered at the University. The first and the most common, is the TA which is common in the science lab. It is a teaching assistantship where you get to teach one or more lecture or lab sections. If you're a new TA, you're typically given a freshman level lab section.

The second type is a research assistantship where you work on different research projects under your professors.

The third type is the graduate assistantship. You are a graduate assistant where you are neither fully teaching or fully into research but you have duties like assisting professors with data management, doing some data analysis, doing some office work, and even administrative work.

Slide #5

Narrator: With this, the three types of assistantships, let's talk a little bit about the general class structure. Typically, all science classes have a lecture and a lab component. The lecture is typically taught by an instructor and is huge. When I say large student population, maybe 200. The lecture is usually followed by a lab which is taught by a teaching assistant. That is few. They are sometimes independently taught or they are sometimes co-taught. Like you know, two teaching assistants will take care of one lab.

But typically, students are in smaller groups. The huge lecture is divided into smaller chunks. We call them smaller lab sections - 22-30 students per lab. You may have a lead TA or lab coordinator. That's very important to new TA's - to know your lead TA who will actually help you through the entire teaching process.

Slide #6

Narrator: The teaching responsibilities of TA's differ from department to department. We will not probably spend a lot of time but this is just a slide to show you the different courses that TA's teach, the different roles and responsibilities, and how they differ from department to department.

For example, in geology, typically the TA's teach lab sessions of four credit hour courses. They not only teach but they host office hours and they assist the lab or lecture instructors, typically 15-24 in a lab setting.

In geology, GA students typically teach three labs a week. Master's students teach two labs a week. So if you are a [didn't hear] student, you know your teaching load will be a little more than if you are a masters' student. But this is for geology. It's important to know the departments have different TA structure.

Talking about orientation, geology again has their own orientation for their TA's. Not every department has this to offer. But this slide will let you know just a brief overview of what the TA duties are and how they vary from department to department.

Slide #7

Narrator: Once again, the duties of being a TA in the science lab. You have to remember that it varies a lot from department to department. But these are the main things you might be required to do. You might be asked to teach two or three lab sections which is the most common type. You may be asked to grade exams and assignments. You may be asked to proctor exams. That is, supervise exams. You may be asked to tutor specific students or specific groups of students. You can do some data analysis, data entry. You can actually lead discussions and seminars either independently or with the professor that's actually teaching the lecture.

And, there is also a bit of prep work - setting up the lab and cleaning up the lab, in the science labs usually.

Slide #8

Narrator: What should be the purpose of the lab? You, as a TA should know our main idea, main goal is to connect lecture topics to the real world. We explore the contents that are presented during the lecture using different methods. And understand the scientific method or methods that are involved, and promoting the whole hands-on basis to learning.

This is like the overview of the main purpose of labs in science. Typically, when you are writing your syllabus, if you keep these goals in mind, it be easier for you to assign your syllabus accordingly.

Slide #9

Narrator: The next part of our presentation starts from how to get ready for this role. How to get ready as a new TA in the department. We have divided the rest of the presentation into specific things that you need to do as time proceeds. This part talks about what you need to do before the semester begins. What we mean to say is do it now. If you haven't done it yet, this slide is very important. Once we are done with the orientation, these are things that you should keep in mind. This slide is about the things you need to do even before the actual semester begins.

You still have time. It's just Wednesday. You still have the rest of the week to get these things accomplished. The main important thing about this slide is that you have to get as much information as possible about your TA roles and duties. How are we going to do that? You can meet with your graduate coordinator. That's the most important thing. Or, you can meet with the instructor or the lab coordinator.

You can start working with other TA's in your department. You should know your duties. When you say know your duties, you should know what course you will be teaching, how many times a day. Make sure to sign and understand the contract. Have a paper copy of the contract you are signing. Make sure that you understand what your roles would be for the semester or academic year depending on what the contract states.

If you have a departmental orientation, not every department has their own TA department orientation, but if you have a departmental orientation, you should attend that too. That will give you a chance to familiarize yourself with the department. If there is no departmental orientation, we strongly recommend you should still go and familiarize yourself with that department.

Go and get familiarized with the location of the lab rooms, the rooms in which you will be teaching. Go and see. Check out the lab equipment, safety procedures. Check out to see if there is a TA manual. Some departments do have one.

Certain things you have to get done before the semester is getting keys. Particularly, science labs have metal keys or they program your Flashcard. You can swipe in the lab doors. Get that thing early, maybe by this week, so you're more prepared to do your duties as the semester begins.

Also to mention, department secretaries are wonderful for help. Anything you need during these first few weeks, they are a huge resource even if they are students. You can go in there for help if you need assistance.

As soon as you know what you are teaching, make sure you start preparing your own syllabus. When I say syllabus, every section you teach needs to have a syllabus ready on the first day of class. This week would be a good time to spend some time making your own syllabus.

Typically, if you are a new TA in the science lab, you don't really have to start everything from scratch. You are given a template that you have to input your own personal information. But typically, there is a syllabus already existing.

Ultimately, we would also recommend, there is a syllabus and scheduling workshop. The resources will be online to help you make or prepare your own syllabus. We strongly recommend that you go to that too.

One more thing you can do before semester is get copy of your student list which is also called the roster. If you are the instructor of a specific lab section, typically you can get your own student list from Flashline. What you have to do is go to Flashline, and then under the faculty tool tab, once you click the faculty tool tab, you will see the courses you are teaching and there is an icon where you click, and your entire student list comes up.

Why is this important? When you are starting teaching a new course, it's important sometimes to know the student background - how many freshman you have, how many seniors you have. It's important to know. Also, it will help you to get their email in case you need to contact them later.

Typically, this particular slide is important and gives you information about what you need to do even before the semester begins. If you haven't done any of these, you still have time. Take your time going through all of these points so you are prepared as a new TA in the department.

Slide #10

Narrator: The next slide will help you to learn about the things you need to know before your first class. Find a contact for additional resources. You should know who that person would be; either a graduate coordinator or a lab instructor or the lead TA or even the department secretary. You should know that, "OK, regarding my TA duties and responsibilities, this is the person to go to in case I need anything."

Before your first class, go over the lab manual, go over the assigned exercise, that one specific assignment. Make sure you're familiarized with the equipment and the material involved. If you want, you can do the lab yourself if you want. Check all the safety procedures. Ultimately, if you want to get familiarized of how a lab works, we strongly recommend you attend a lab earlier in that week. Typically, the instructor has six different TA's teaching the same course but to different students. Let's say maybe two TA's each day. If you are teaching on a Thursday, you might as well go see the same lab being taught by a different TA on a Monday or a Tuesday.

Attending a lab earlier in the week helps you to know how the class perceives. What are the things you might need for your own class. It actually helps you prepare more for this new role. Then, after you see this, it helps you to plan your teaching strategy. It will help you to time the different things that are associated with the lab. We would recommend that either you do the lab yourself before your first class or attend one early in the week.

Slide #11

Narrator: How are we going to make sure that our lab runs smoothly throughout the semester? We believe in a lab structure that has a preview and a review cycle. Needless to say, please dress properly. You should stand out from your students. What I mean to say, it's not formal business attire but at least, semi-formal the first few weeks. It's important because it makes a good impression on your students. It's kind of a professional approach. It gives you more confidence that is needed for the very first few weeks you face your students. It's a just thing that makes you comfortable but at the same time, it makes you different than your students. Typically, you teach undergraduates so it's important to dress properly.

Make sure to arrive early. Greet your students as they walk in. It's very, very important for at least your first class. Actually, every class. You need to be on time. At least five minutes before your class begins, make sure you open the lab doors and let your students in.

For example, in biology, in the building, you don't want students making a huge line in the corridor because you're not there. That will not create a good impression on you as their TA. Make sure to arrive early, greet students, let them in and settle down. Make sure they have time for it before your class time.

Typically, the lab structure - introduce the experiment, talk about the goals, what they are going to learn, and then do the experiment. Then, review and reflect on what they have been doing. It's also learning by doing for us as TA's. Everything won't be perfect every time. Reflecting on what you have been doing in the lab later on helps you understand what you need to know to do it better next time. That's why the review component is very important.

Make sure you leave enough time for questions for your students. And, a huge thing for science labs, clean up and dispose. Make sure the [didn't hear], the biohazards, any kind of chemical . . . make sure students know them, their locations, and handle disposal and clean up accordingly.

Slide #12

Narrator: Now we come to the important thing. How to handle my first class as a TA. These are some general structures. Make sure you introduce yourself. It's important to tell them you are the instructor for this lab so that you are the teacher. I myself, personally choose not to use PhD student or I never say I'm a doctoral student but if you know that you can handle that, you can do it. Or even a master's student but I don't tell them I am a student because I feel I want to focus on my goal as an instructor. So that's why I typically introduce myself as, "Hi, I am Raj, and I will be the instructor [didn't hear.]"

So I talk a little bit about my own research which kind of gives a professional platform to myself. Make sure you draw a connection between the lab and the lecture. So talk about the goals again in the very first lab. It's very easy to draw a connection between what you have been doing in the lecture and here in the lab, this is how we are going to elaborate on what you have learned in the lecture.

On the very first day, getting to know your students is also important. Very, very important is reading aloud your syllabus. Make sure hand out a copy. If you're doing it online, that's fine too but make sure you keep all the relevant policies very clear, and make sure the students understand them. If you have a policy with the student dress code, make sure you add it on the syllabus. If you have policies for late work, missed class, attendance, grading, make sure you add them.

I will give you examples. In biology, there are no open toed shoes allowed. No sleeveless shirts. If your hair is long, it needs to be tied. If the students are not following the dress code, make sure don't allow them to be in the class. Let them go at least the first day. Say, "This is the dress code, and if you are not following it, go home today." Or maybe the first time allow them an excuse but you never know. You shouldn't take chances with the policies that are already there.

For late work, make sure if you want them to resubmit again, make sure you state the time. The very first day, I literally read aloud my syllabus so I get the time to elaborate each point that I want them to know. I try to let them know the student expectations loud and clear.

You don't want students, at the end of the semester, come up with tons and tons of missed classes, missed assignments. You want certain structure. You want them to do it on a certain time so it works for both of you. It's important to put these things down in the syllabus and make them clear on the very first day.

That's why the first day is important - sharing the syllabus with them, making sure they understand.

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Narrator: Once you follow that preview and review mode for every lab, you will get plenty of opportunities to learn more from your own teaching. Coming back to some general important things about being a lab TA, and specifically, the science labs. There will be a lot of grading and evaluation to do. You will be asked to evaluate shorter assignments like quizzes, homeworks, that you give to your students. Then, there will be longer assignments to grade like essays, lab reports, journal reviews.

The difficult part of this part is you are a new student. You have your own assignments to do but at the same time, as a lab TA, have assignments to grade. Make sure you plan your time accordingly.

We have some strategies for grading. Very important thing is giving them an idea of how the grading goes. Give them a rubric. Create a rubric. Hand the rubric, hand the grading criteria to them. Make sure you address late submissions, makeups appropriately. When we grade, we read a few assignments before starting to assign grades. It gives you an idea about where the general level of the class is. Then you can revisit them and assign grades. But start grading a few rather than taking each and assigning grades to them.

Be consistent in whichever approach you choose but be prepared to answer questions about grading. Students will come again and again and ask why points have been taken off. Just make sure you know how to justify what you have been doing with the grading.

As a TA, you will also be asked to proctor exams, which is just supervising large exam classes. Just make sure you know your responsibilities. It's easy. The University has its own policy on cheating. The professor whose exams you will be proctoring may also have policies regarding cheating. But proctoring is easy. It's just the time you will be required to spend in a classroom where students will be taking exams. Just make sure you are on time when you are asked to proctor an exam. If you have a schedule conflict, just let your professor know or let the lecture professor know you have a schedule conflict.

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Narrator: This preview and review type of work from week to week in every class you teach, I'm sure you will have a lot of reflections, a lot of note taking and talks to yourself for doing it better next time. Moving towards the end of the semester, three important things. One, make sure you clarify the date of the final exam. Also clarify the format if you want to. The format of final exam. Make sure you submit the grades on time. Most of the time, the faculty tools tab will allow you to submit grades online. If not, submit to the instructor who is responsible.

We create the lab and lecture together, so what lab teams do is send grades in an excel spreadsheet to an instructor, and she is the one who actually inputs the grades. Whichever way it is, make sure you turn in the grades on time.

The final thing is student evaluation. You should know you will be evaluated by your students at the end of the semester; typically, the second last week of the end of the semester. Usually, it's done on one of the last days. You are not supposed to be in the room. It goes both ways. It's anonymous but they are welcome to put additional comments, including their personal information. It's important to know that by the end of the semester, you should make sure that the student evaluations are complete. And, turned in in the office.

With the few classes to begin with, you're probably working more towards the beginning of the semester. But, as you proceed with your classes, it evens out. You will get plenty of opportunity to learn from your own teaching. I'm sure every thought or every lecture will be a learning tool for you.

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Narrator: With that, we wrap up this presentation. But we will be happy to take questions. You can always direct emails to either of us. Mine is rghosh2@kent.edu. Cadey is my other GSO leader. Both of us were assigned this presentation. But if you any questions about your new TA roles, specifically in a science lab, just let us know by email. We would be happy to give you more information on specific things you want to know.

Thank you very much. With that, we wish you all the best in your new role as a TA in the science lab. We hope the semester goes really, really well. Thank you.